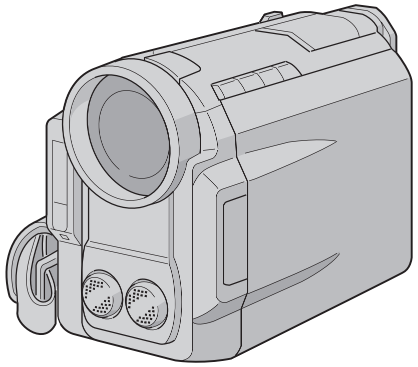
JVC

SERVICE MANUAL

DIGITAL CAMCORDER

GR-DVL9600EG/EK



Mini DV PAL

Regarding service information other than these sections, refer to the GR-DVL9500EG/EK service manual (No. 86459). Also, be sure to note important safety precautions provided in the service manual.

SPECIFICATIONS *(The specifications shown pertain specifically to the model GR-DVL9600EK)*

General

Power supply	DC 6.3 V ⎓ (Using the AC Power Adapter/ Charger) DC 7.2 V ⎓ (Using battery pack)
Power consumption	
LCD monitor off, viewfinder on	Approx. 5.3 W
LCD monitor on, viewfinder off	Approx. 6.5 W
LCD monitor on, viewfinder on	Approx. 7.1 W
Format	DV Format (SD mode)
Signal format	PAL Standard
Video signal recording format	Digital Component Recording
Cassette	Mini DV Cassette
Tape Speed	SP: 18.8 mm/s LP: 12.5 mm/s
Maximum recording time	SP: 60 min. LP: 90 min. (using M-DV60ME cassette)
Pickup	1/3" CCD
Lens	F1.8, f = 5 to 50 mm, 10:1 Power Zoom Lens
Filter diameter	ø37 mm
LCD monitor	3.8" diagonally measured, LCD panel/TFT active matrix system
Viewfinder	Electronic viewfinder with 0.55" colour LCD
Speaker	Monaural
Operating temperature	0°C to 40°C
Operating humidity	35% to 80%
Storage temperature	–20°C to 50°C
Dimensions	72 (W) x 94 (H) x 128 (D) mm (with the LCD monitor closed, and with the viewfinder fully tilted downward and pushed back in)
Weight	Approx. 670 g

Connectors

S-Video output	Y: 1Vp-p, 75 Ω, analogue output C: 0.29 Vp-p, 75 Ω, analogue output
Video output	1 Vp-p, 75 Ω unbalanced, analogue output (via AV OUT connector)
JLIP/Digital still output	ø3.5 mm, 4-pole, mini-head jack (compatible with RC-5325 plug)
Audio output	–8 dBs, 1 kΩ analogue output (via AV OUT connector)
Headphone output	ø3.5 mm, stereo (via AV OUT connector)
External microphone input	–68 dBs, high impedance unbalanced with ø3.5 mm (stereo)
DV connector	4-pin, IEEE1394 confirmity

AC Power Adapter/Charger AA-V68EK

Power requirement	AC 110 V to 240 V∿, 50/60 Hz
Power consumption	20 W
Output	
Charge	DC 7.2 V ⎓ , 0.77 A
VTR	DC 6.3 V ⎓ , 1.8 A
Dimensions	94 (W) x 35 (H) x 122 (D) mm
Weight	Approx. 300 g

Specifications shown are for SP mode unless otherwise indicated. E & O.E. Design and specifications subject to change without notice.

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No. 86481
March 1999

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The following table indicate main different points between models GR-DVL9500EG, DVL9600EG, DVL9500EK and GR-DVL9600EK.

MODEL ITEM	GR-DVL9500EG	GR-DVL9600EG	GR-DVL9500EK	GR-DVL9600EK
BODY COLOR	Silver	Light Gold	Silver	Light Gold
DV CABLE	–	○	–	○
AC POWER ADAPTER.CHARGER	AA-V68EG	←	AA-V68EK	←

Note: Mark – is not used. Mark ○ is used.

The following table indicate different parts number between models GR-DVL9500EG, DVL9600EG, DVL9500EK and GR-DVL9600EK.

PACKING ASSEMBLY <M1>

REF No.	MODEL ITEM	GR-DVL9500EG	GR-DVL9600EG	GR-DVL9500EK	GR-DVL9600EK
1	PACKING CASE	LY31167-001A	LY31167-005A	LY31167-002A	LY31167-006A
⚠ 5	BATT. CHARG. ASSY	LY20290-008B	←	LY20290-009B	←
20	POLY BAG	QPA02003006	←	YQM30061-3	←
⚠ 23	IB (EN)	LYT0329-001A	←	LYT0331-001A	LYT0331-001B
⚠	IB (GE)	LYT0329-002A	←	–	–
⚠	IB (FR)	LYT0329-003A	←	–	–
⚠	IB (DU)	LYT0329-004A	←	–	–
⚠	IB (SP)	LYT0329-005A	←	–	–
⚠	IB (IT)	LYT0329-006A	←	–	–
⚠	IB (DA)	LYT0329-007A	←	–	–
⚠	IB (FI)	LYT0329-008A	←	–	–
⚠	IB (SW)	LYT0329-009A	←	–	–
⚠	IB (NO)	LYT0329-010A	←	–	–
⚠	IB (RU)	LYT0329-011A	←	–	–
⚠	IB (CZ)	LYT0329-012A	←	–	–
⚠	IB (PO)	LYT0329-013A	←	–	–
⚠	IB (HU)	LYT0329-014A	←	–	–
24	GUARANTEE CARD	BT-54013-1	←	BT-54008-2	←
27	REGIST. CARD	–	–	YU30878	←

Note: Mark – is not used. Mark ← is same as left.

REF No.	MODEL ITEM	GR-DVL9500EG	GR-DVL9600EG	GR-DVL9500EK	GR-DVL9600EK
29	IB (SOFT) (GE)	LYT0330-001A	←	–	–
	IB (SOFT) (FR)	LYT0330-002A	←	–	–
34	DV CABLE	–	QAM0100-002	–	QAM0100-002
35	NOISE FILTER	–	QQR0855-004	–	QQR0855-004
36	CORE FILTER	–	QQR0491-002	–	QQR0491-002

FINAL ASSEMBLY <M2>

REF No.	MODEL ITEM	GR-DVL9500EG	GR-DVL9600EG	GR-DVL9500EK	GR-DVL9600EK
⚠ 113	UPPER CASE ASSY	LY20460-003A	LY20460-001B	LY20460-003A	LY20460-001B
113C	BUTTON (MENU)	LY31189-002A	LY31189-001A	LY31189-002A	LY31189-001A
124	FRONT COVER ASSY	LY20385-002B	LY20385-001D	LY20385-002B	LY20385-001D
181B	SPACER-A	–	LY30016-0T3A	–	LY30016-0T3A
243	SHIELD SHEET (OP)	–	LY41616-001A	–	LY41416-001A

–ELECTRONIC VIEWFINDER SECTION–

REF No.	MODEL ITEM	GR-DVL9500EG	GR-DVL9600EG	GR-DVL9500EK	GR-DVL9600EK
301	CASE (TOP) ASSY	LY20390-002A	LY20390-001D	LY20390-002A	LY20390-001D
⚠ 331	EVF ASSY	LYH20050-003B	LYH20050-004B	LYH20050-003B	LYH20050-004B

–MONITOR SECTION–

REF No.	MODEL ITEM	GR-DVL9500EG	GR-DVL9600EG	GR-DVL9500EK	GR-DVL9600EK
⚠ 501	MONITOR COVER ASSY	LY31038-003A	LY31038-004A	LY31038-003A	LY31038-004A
505	HINGE COVER 1	LY31044-002B	LY31044-001B	LY31044-002B	LY31044-001B
⚠ 521	MONITOR ASSY	LYH20051-003A	LYH20051-004B	LYH20051-003A	LYH20051-004B

Note: Mark – is not used. Mark ← is same as left.

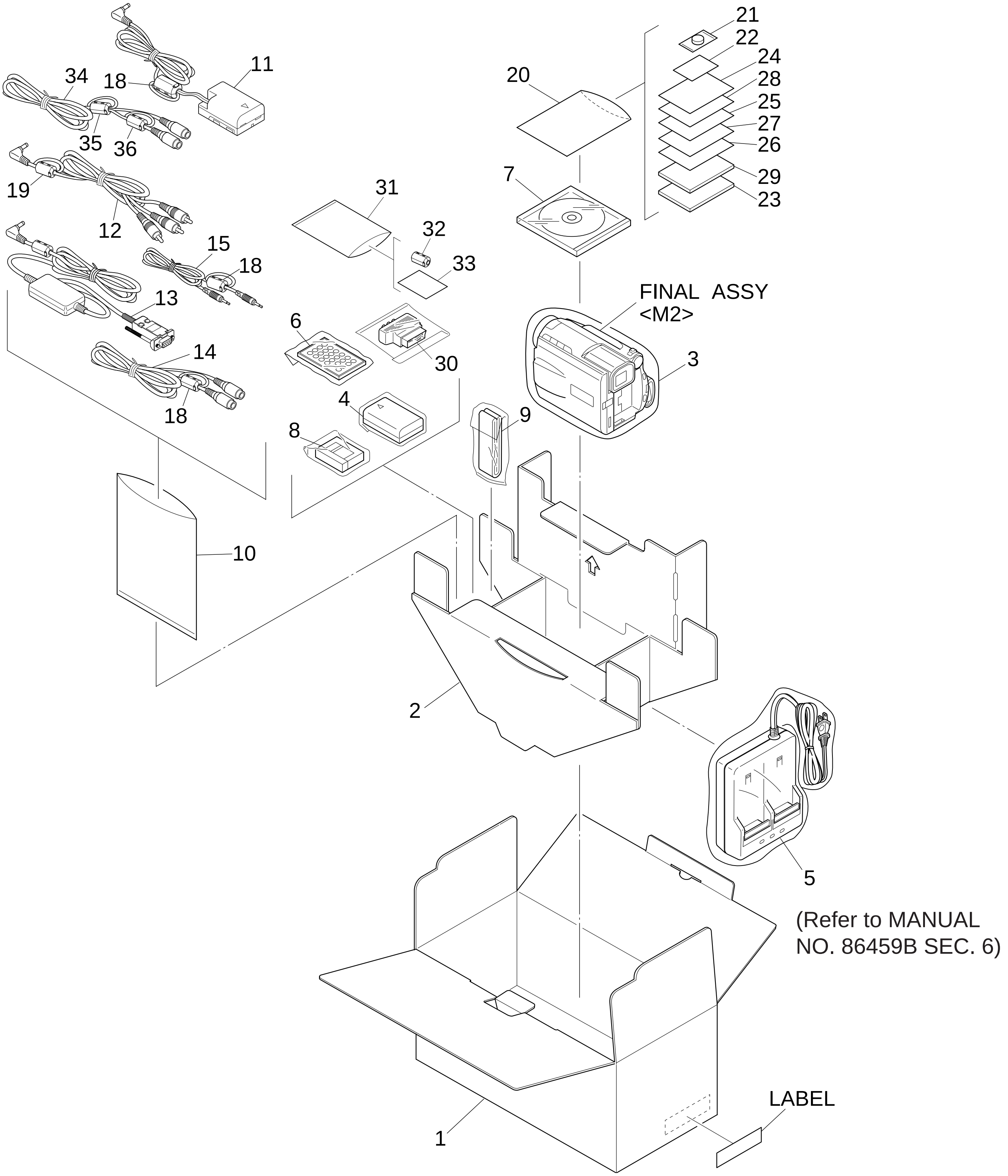
SECTION 5
PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

5.1 PACKING ASSEMBLY <M1>

The instruction manual to be provided with this product will differ according to the destination.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FINAL ASSY
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(Refer to MANUAL
NO. 86459B SEC. 6)
LABEL
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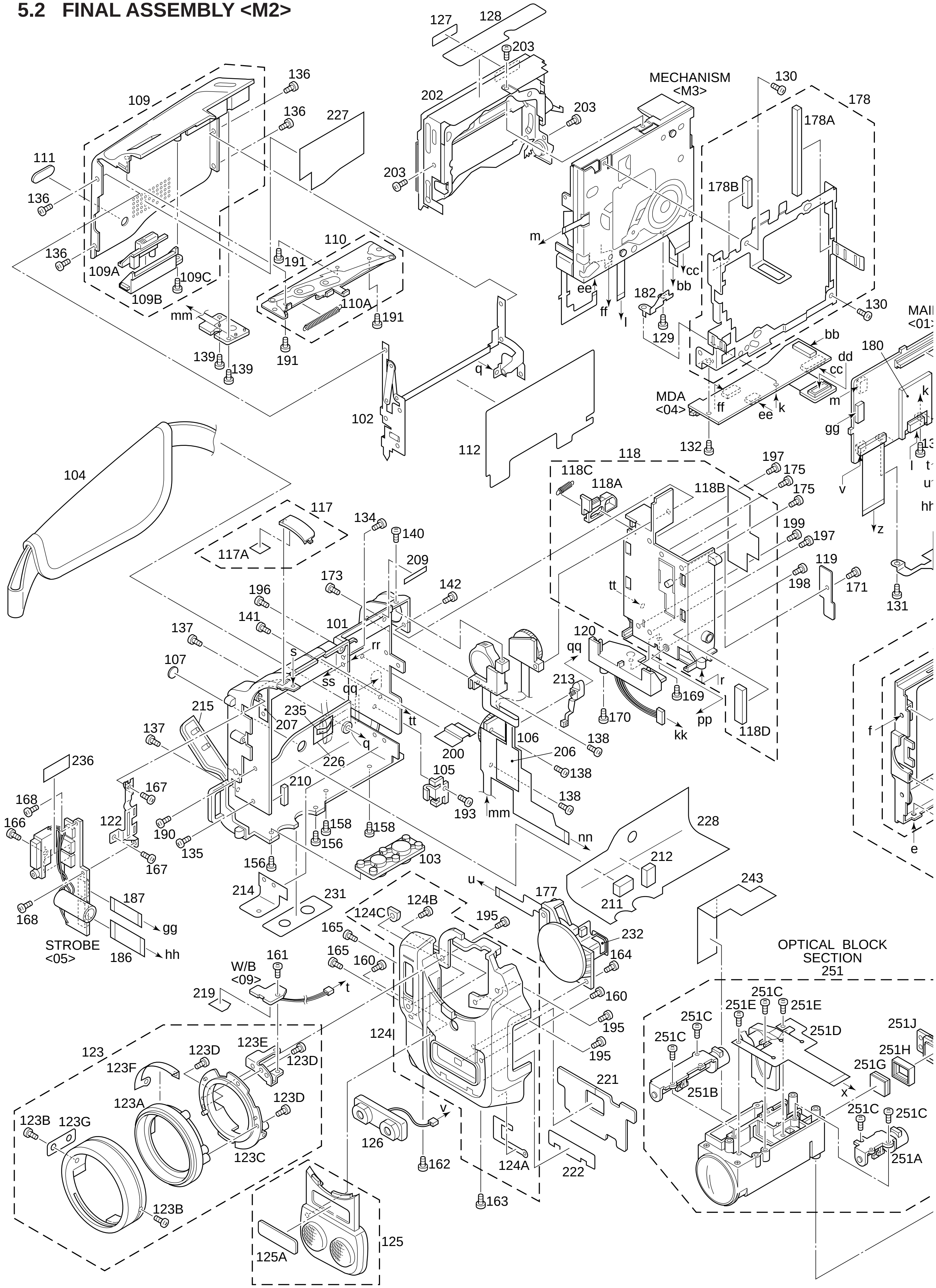
PACKING ASSEMBLY <M1>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	1	LY31167-005A	PACKING CASE, DVL9600EG
		LY31167-006A	PACKING CASE, DVL9600EK
	2	LY20433-001A	CUSHION
	3	LY30023-008A	POLY BAG
⚠	4	LY30780-002A	BATTERY PACK
⚠	5	LY20290-008B	BATT.CHARG.ASSY, DVL9600EG
⚠		LY20290-009B	BATT.CHARG.ASSY, DVL9600EK
	6	YQ20922M	REMOTE CONTROLLER
	7	LY31133-002B	CD ROM ASSY
	8	–	TAPE ASSY
	9	LY20186-001A	SHOULDER STRAP
	10	QPGA017-03005	POLY BAG
	11	LY31057-001A	DC CORD PLUG
	12	QAM0120-001	CABLE ASSY(AUDIO/VIDEO)
⚠	13	QAM0099-005	PC CABLE,JLIP
	14	QAM0004-004	S CABLE, S-VIDEO CABLE
	15	YQ31950C	REMOTE CABLE, EDITING CABLE
	18	QQR0491-002	CORE FILTER, X3
	19	QQR0918-002	CORE FILTER
	20	QPA02003006	POLY BAG, DVL9600EG
		YQM30061-3	POLY BAG, DVL9600EK
⚠	21	PECA0903	LI BATTERY
	22	YQ43558	C.CLOTH ASSY
⚠	23	LYT0329-001A	IB(EN), DVL9600EG
⚠		LYT0329-002A	IB(GE), DVL9600EG
⚠		LYT0329-003A	IB(FR), DVL9600EG
⚠		LYT0329-004A	IB(DU), DVL9600EG
⚠		LYT0329-005A	IB(SP), DVL9600EG
⚠		LYT0329-006A	IB(IT), DVL9600EG
⚠		LYT0329-007A	IB(DA), DVL9600EG
⚠		LYT0329-008A	IB(FI), DVL9600EG
⚠		LYT0329-009A	IB(SW), DVL9600EG
⚠		LYT0329-010A	IB(NO), DVL9600EG
⚠		LYT0329-011A	IB(RU), DVL9600EG
⚠		LYT0329-012A	IB(CZ), DVL9600EG
⚠		LYT0329-013A	IB(PO), DVL9600EG
⚠		LYT0329-014A	IB(HU), DVL9600EG
⚠		LYT0331-001B	IB(EN), DVL9600EK
	24	BT-54008-2	GUARANTEE CARD, DVL9600EK
		BT-54013-1	GUARANTEE CARD, DVL9600EG
	25	LYT0162-010A	ACC.LEAFLET
	26	LYT0291-005B	SHEET(INSTALL)
	27	YU30878	REGIST.CARD, DVL9600EK
	28	YU30843-7-1	SOFT WARE PERM.
	29	LYT0291-004B	IB(SOFT)(EN)
		LYT0330-001A	IB(SOFT)(GE), DVL9600EG
		LYT0330-002A	IB(SOFT)(FR), DVL9600EG
	30	PEMC1000-01-02	CONNECTOR,CABLE ADAPTER
	31	LY30023-012A	POLY BAG
	32	QQR0491-002	CORE FILTER
	33	LYT0370-001A	SHEET(ATT.)
	34	QAM0100-002	DV CABLE
	35	QQR0855-004	NOISE FILTER
	36	QQR0491-002	CORE FILTER

• INSTRUCTIONS

EN .... ENGLISH
GE ...... GERMANY
FR .... FRENCH
DU ...... DUTCH
SP .... SPANISH
IT .... ITALIAN
DA .... DANISH
FI .... FINNISH
SW ...... SWEDISH
NO ...... NORWEGIAN
RU ...... RUSSIAN
CZ .... CZECH
PO ...... POLISH
HU ...... HUNGARIAN

5.2 FINAL ASSEMBLY <M2>



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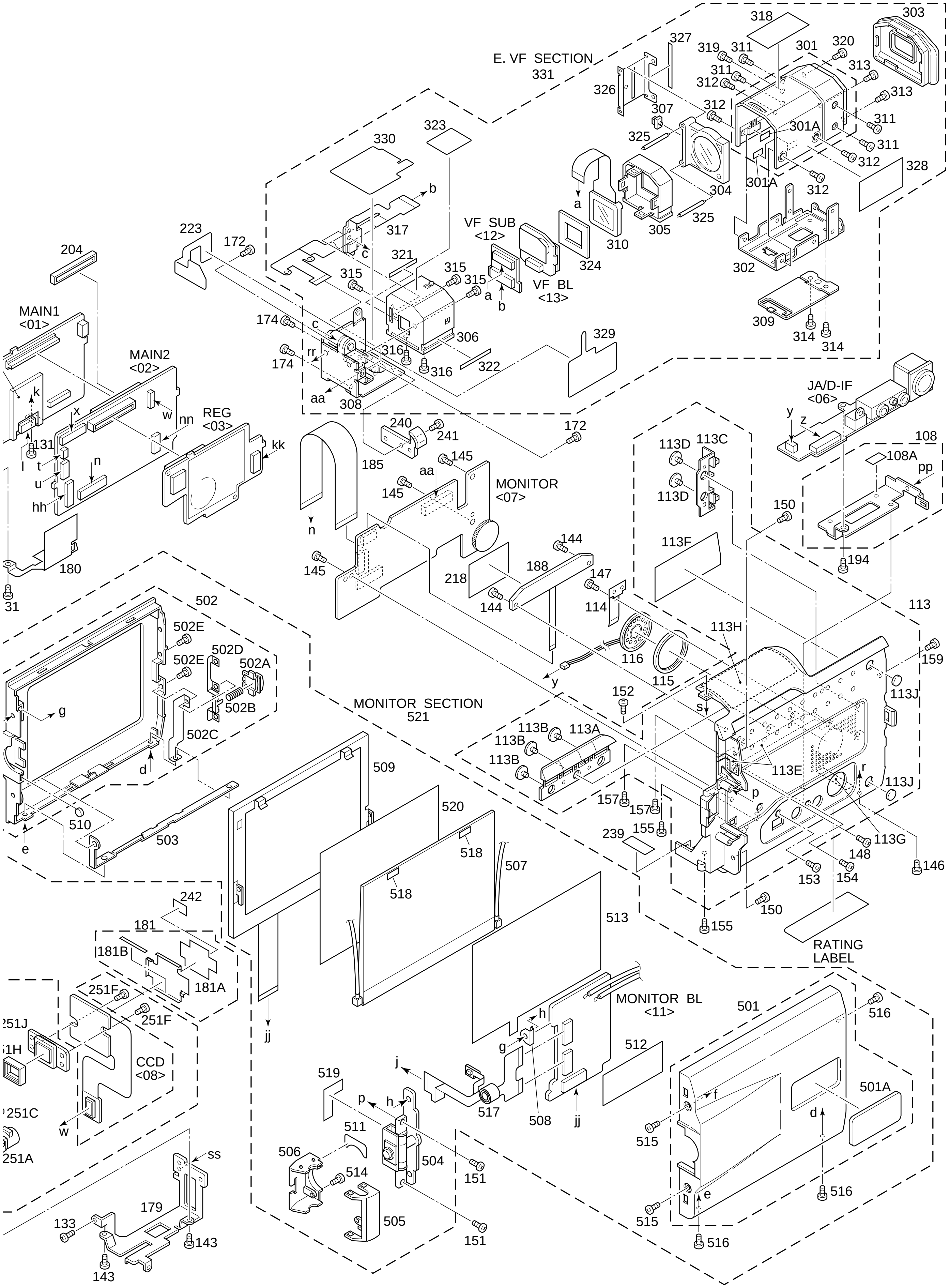
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FINAL ASSEMBLY <M2>

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
101	LY20383-002H	LOWER CASE ASSY
102	LY31016-001B	ARM ASSY
103	LY31019-001A	BASE
104	LY20235-004D	GRIP BELT
105	LY31049-001B	BKT(G.B)
106	LY10172-002A	OPERATION(CAMERA)UNIT
107	LY41214-001A	COVER(LOWER)
108	LY41503-001A	BKT(B)ASSY
108A	LY30016-0N9A	SPACER-A
109	LY20384-003A	CASS.COVER ASSY
109A	LY31021-001B	KNOB(LOCK)
109B	LY31022-001A	HOLDER(KNOB)
109C	LY30018-023A	SPECIAL SCREW
110	LY31023-001D	LOCK ASSY
110A	LY30001-020A	TENSION SPRING
111	LY41265-001A	COVER(CASS)
112	LY41459-001A	SHEET(CC)
⚠ 113	LY20460-001B	UPPER CASE ASSY
113A	LY31188-001A	BUTTON(PLAY)
113B	LY30018-074A	SPECIAL SCREW,X3
113C	LY31189-001A	BUTTON(MENU)
113D	LY30018-074A	SPECIAL SCREW,X2
113E	LY41443-001A	SHEET(EARTH)
113F	LY41395-001A	SHEET(UPPER)
113G	LY30016-0Q4A	SPACER-A
113H	LY30016-0Q7A	SPACER-A
113J	LY40664-001A	SPACER,X2
114	LY41236-001A	BKT(SPEAKER)
115	LY40301-001A	SPACER(SPK)
116	QAS0029-001	SPEAKER
117	LY41510-001A	WINDOW ASSY
117A	LY30016-0P1A	SPACER-A
⚠ 118	LY20388-003D	REAR COVER ASSY
118A	LY31032-001B	KNOB(B.REL)
118B	LY41227-003B	SHEET(REAR)
118C	LY30001-018A	TENSION SPRING
118D	LY41392-001A	SPACER
119	LY41226-001A	COVER(JIG)
120	LY31033-001B	BATT.TERM.UNIT
122	LY41253-001A	BKT(STROBE)
123	LY31025-001G	HOOD ASSY
123A	LY31027-001B	LENS HOLDER
123B	LY30018-011A	SPECIAL SCREW,X2
123C	LY31028-001E	SHUTTER HOLDER
123D	LY30018-023A	SPECIAL SCREW,X3
123E	LY31029-001B	BKT(HOOD)
123F	LY41419-001A	SHEET(EARTH)
123G	LY41420-001A	SHEET(EARTH)
124	LY20385-001D	FRONT COVER ASSY
124A	LY41421-001A	SHEET(EARTH)
124B	LY30018-023A	SPECIAL SCREW
124C	LY41426-001A	SHEET(WINDOW)
125	LY31030-002B	MIC COVER ASSY
125A	LY40987-003B	MARK
126	LY31031-001A	MICROPHONE
127	LY40699-002A	LABEL(PUSH)
128	LY40698-002A	LABEL(HOUSING)
129	YQ43893-4	MINI SCREW
130	LY30019-003A	SPECIAL SCREW,X2
131	LY30018-014A	SPECIAL SCREW,X2
132	LY30018-022A	SPECIAL SCREW
133	LY30018-064A	SPECIAL SCREW
134	LY30018-064A	SPECIAL SCREW
135	LY30018-064A	SPECIAL SCREW
136	LY30018-066A	SPECIAL SCREW,X4
137	LY30018-066A	SPECIAL SCREW,X2
138	LY30018-023A	SPECIAL SCREW,X3
139	LY30018-021A	SPECIAL SCREW,X2
140	LY30018-023A	SPECIAL SCREW
141	LY30018-023A	SPECIAL SCREW
142	LY30018-037A	SPECIAL SCREW
143	LY30018-063A	SPECIAL SCREW,X2
144	LY30018-044A	SPECIAL SCREW,X2
145	LY30018-044A	SPECIAL SCREW,X3
146	LY30018-060A	SPECIAL SCREW
147	LY30018-046A	SPECIAL SCREW
148	QYSPSPU1640R	SCREW
150	LY30018-060A	SPECIAL SCREW,X2
151	LY30018-068A	SPECIAL SCREW,X2
152	LY30018-067B	SPECIAL SCREW
153	QYSPSPU1640R	SCREW
154	LY30018-060A	SPECIAL SCREW
155	LY30018-060A	SPECIAL SCREW,X2
156	LY30018-037A	SPECIAL SCREW,X2
157	LY30018-047A	SPECIAL SCREW,X2
158	LY30018-067B	SPECIAL SCREW,X2
159	LY30018-060A	SPECIAL SCREW
160	LY30018-023A	SPECIAL SCREW,X2
161	LY30018-005A	SPECIAL SCREW
162	LY30018-037A	SPECIAL SCREW
163	LY30018-047A	SPECIAL SCREW
164	LY30018-023A	SPECIAL SCREW
165	LY30018-063A	SPECIAL SCREW,X2
166	LY30018-021A	SPECIAL SCREW
167	LY30018-021A	SPECIAL SCREW,X2
168	LY30018-022A	SPECIAL SCREW,X2
169	LY30018-037A	SPECIAL SCREW
170	LY30018-037A	SPECIAL SCREW
171	LY30018-037A	SPECIAL SCREW
172	LY30018-075A	SPECIAL SCREW,X2
173	LY30018-005A	SPECIAL SCREW
174	LY30018-017A	SPECIAL SCREW,X2
175	LY30018-067B	SPECIAL SCREW,X2
177	LY20429-001H	L.SHUTTER ASSY
178	LY31157-001A	BRACKET(M1)ASSY
178A	LY30016-0L6A	SPACER-A
178B	LY30016-0L7A	SPACER-A
179	LY31010-001C	BKT(OP)
180	LY31012-001A	SHIELD COVER
181	LY41549-001C	SHIELD(CCD)ASSY
181A	LY41339-001A	SHEET(SHIELD)
181B	LY30016-0T3A	SPACER-A
182	LY40709-001C	BRACKET(GRD)
185	QAL0151-001	FPC
186	WJT0014-001A	E-CARD WIRE,STROBE CN502-MAIN2 CN205
187	QAL0153-001	FPC
188	LY31080-001B	FPC ASSY(OPERATION DECK UNIT)
190	LY30018-066A	SPECIAL SCREW
191	LY30018-021A	SPECIAL SCREW,X3
193	QYSLSF2050D	SCREW
194	LY30018-057A	SPECIAL SCREW
195	LY30018-023A	SPECIAL SCREW,X3
196	LY30018-044A	SPECIAL SCREW
197	LY30018-064A	SPECIAL SCREW,X2
198	LY30018-067B	SPECIAL SCREW
199	LY30018-064A	SPECIAL SCREW
200	LY41365-001A	SPACER(SHIELD)
202	LY30483-001K	CASSETTE HOUSING ASSY
203	YQ43893-4	MINI SCREW,X3
204	LY41388-001A	HOLDER(CONN)
206	LY41391-001A	SHEET(OPE)
207	LY41348-001A	SHEET(EARTH1)
209	LY30016-0K8B	SPACER-A
210	LY30016-0L6A	SPACER-A
211	LY30016-0N7A	SPACER-A
212	LY30016-0N6A	SPACER-A
213	LY31015-001C	BUTTON(TRG)
214	LY41349-001A	SHEET(EARTH2)
215	LY31014-001A	JACK COVER
218	LY30016-0N1A	SPACER-A
219	LY41461-001A	SPACER(W/B)
221	LY41423-001A	SHIELD SHEET
222	LY41427-001A	SHIELD SHEET
223	LY41403-001A	HEAT SINK(2)
226	LY30016-0N8A	SPACER-A
227	LY41457-001C	NET(CASSETTE)
228	LY41458-001B	NET(LOWER)
231	LY41493-001A	SHEET(BOTTOM)

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
232	LY30016-0P6A	SPACER-A
235	LY30016-0P2A	SPACER-A
236	LY30016-0P9A	SPACER-A
239	LY30016-0R7A	SPACER-A
240	LY31198-001A	COVER(VF)
241	LY30018-005A	SPECIAL SCREW
242	LY30016-0P5B	SPACER-A
243	LY41616-001A	SHIELD SHEET (OP)

– OPTICAL BLOCK SECTION –

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
251	LYH20046-001D	OPTICAL BLOCK ASSY
251A	LY30843-001A	FOCUS MOTOR
251B	LY30842-001A	ZOOM MOTOR
251C	LY30727-002A	SCREW,X5
251D	LY30841-001A	IRIS MOTOR UNIT
251E	LY30727-001A	SCREW,X2
251F	QYSPSGU1750Z	SCREW,X2
251G	LY41254-001A	OPTICAL LPF
251H	YQ32122	SPACER RUBBER
251J	LYH40016-002A	CCD BASE ASSY

– ELECTRONIC VIEWFINDER SECTION –

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
301	LY20390-001D	CASE(TOP)ASSY
301A	LY41228-001B	GUIDE,X2
302	LY20392-001C	CASE(BOTTOM)
303	LY31034-001C	EYE CUP
304	LY41284-001D	LENS ASSY
305	LY20394-001B	HOLDER(LCD)
⚠ 306	LY20395-001B	HOLDER(SW)
307	LY41230-001C	SLIDE KNOB
308	LY31035-001C	HINGE ASSY
309	LY31054-001B	CAP
310	QLD0056-001	LCD MODULE
311	LY30018-022A	SPECIAL SCREW,X4
312	LY30018-032A	SPECIAL SCREW,X4
313	LY30018-049A	SPECIAL SCREW,X2
314	LY30018-055A	SPECIAL SCREW,X2
315	LY30018-038A	SPECIAL SCREW,X3
316	LY30018-022A	SPECIAL SCREW,X2
317	LY31083-001C	FPC ASSY
318	LY41341-002B	LABEL(CAUTION)
319	LY30018-038A	SPECIAL SCREW
320	LY30018-049A	SPECIAL SCREW
321	LY30016-0L2A	SPACER-A
322	LY30016-0L1A	SPACER-A
323	LY41235-001B	SHEET
324	LY40127-001A	SPACER(LCD.)
325	LY41382-001C	SHAFT(L.GUID),X2
326	LY31142-001B	LENS GUIDE BASE
327	LY30016-0N2A	SPACER-A
328	LY41341-003B	LABEL(CAUTION)
329	LY41494-001B	SHEET(VF BKT)
330	LY41502-001A	SHEET(VF BKT)2
⚠ 331	LYH20050-004B	EVF ASSY

– MONITOR SECTION –

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
⚠ 501	LY31038-004A	MONITOR COVER ASSY
501A	LY31040-003A	PLATE(MONITOR)
502	LY31041-001C	MONITOR CASE ASSY
502A	LY31039-001B	BUTTON(LOCK)
502B	LY30002-029A	COMPRES. SPRING
502C	LY41295-001A	SHEET(EARTH)
502D	LY31043-001B	BKT(BUTTON)
502E	QYSPSPT1730Z	SCREW,X2
503	LY31042-001A	BKT(MONITOR CASE)
504	LY30555-002B	HINGE ASSY
505	LY31044-001B	HINGE COVER 1
506	LY31045-001B	HINGE COVER 2
507	QLL0057-001	BACK LIGHT
508	LY41238-001A	PLATE(EARTH)
509	QLD0066-001	LCD MODULE
510	LY40663-002A	MAGNET
511	LY40764-003A	SHEET
512	LY30016-0J4A	SPACER-A
513	LY41237-001A	SHIELD PLATE
514	QYSPSPT1735D	SCREW
515	LY30018-028A	SPECIAL SCREW,X2
516	QYSPSPT1740R	SCREW,X3
517	LY31079-001F	FPC ASSY
518	LY30016-0P4A	SPACER-A,X2
519	LY41463-001A	SHEET(HINGE)
520	LY41488-001A	SHEET
⚠ 521	LYH20051-004B	MONITOR ASSY

VICTOR COMPANY OF JAPAN, LIMITED
VIDEO DIVISION

S40894

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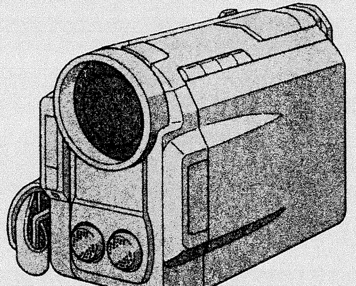
JVC

SERVICE MANUAL

DIGITAL CAMCORDER

GR-DVL9500EG/EK



Mini DV PA

SPECIFICATIONS *(The specifications shown pertain specifically to the model GR-DVL9500EK/GR-DVL9600EK)*

General

Power supply	DC 6.3 V ⎓ (Using the AC Power Adapter/ Charger) DC 7.2 V ⎓ (Using battery pack)
Power consumption	
LCD monitor off, viewfinder on	Approx. 5.3 W
LCD monitor on, viewfinder off	Approx. 6.5 W
LCD monitor on, viewfinder on	Approx. 7.1 W
Format	DV Format (SD mode)
Signal format	PAL Standard
Video signal recording format	Digital Component Recording
Cassette	Mini DV Cassette
Tape Speed	SP: 18.8 mm/s LP: 12.5 mm/s
Maximum recording time	SP: 60 min. LP: 90 min. (using M-DV60ME cassette)
Pickup	1/3" CCD
Lens	F1.8, f = 5 to 50 mm, 10:1 Power Zoom Lens
Filter diameter	ø37 mm
LCD monitor	3.8" diagonally measured, LCD panel/TFT active matrix system
Viewfinder	Electronic viewfinder with 0.55" colour LCD
Speaker	Monaural
Operating temperature	0°C to 40°C
Operating humidity	35% to 80%
Storage temperature	–20°C to 50°C
Dimensions	72 (W) x 94 (H) x 128 (D) mm (with the LCD monitor closed, and with the viewfinder fully tilted downward and pushed back in)
Weight	Approx. 670 g

Connectors

S-Video output	Y: 1Vp-p, 75 Ω, analogue output C: 0.29 Vp-p, 75 Ω, analogue output
Video output	1 Vp-p, 75 Ω unbalanced, analogue output (via AV OUT connector)
JLIP/Digital still output	ø3.5 mm, 4-pole, mini-head jack (compatible with RC-5325 plug)
Audio output	–8 dBs, 1 kΩ analogue output (via AV OUT connector)
Headphone output	ø3.5 mm, stereo (via AV OUT connector)
External microphone input	–68 dBs, high impedance unbalanced with ø3.5 mm (stereo)
DV connector	4-pin, IEEE1394 conformity (GR-DVL9600: input/output, GR-DVL9500: output only)

AC Power Adapter/Charger AA-V68EK

Power requirement	AC 110 V to 240 V∿, 50/60 Hz
Power consumption	20 W
Output	
Charge	DC 7.2 V ⎓, 0.77 A
VTR	DC 6.3 V ⎓, 1.8 A
Dimensions	94 (W) x 35 (H) x 122 (D) mm
Weight	Approx. 300 g

Specifications shown are for SP mode unless otherwise indicated. E & O.E. Design and specifications subject to change without notice.

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No. 86459
February 1999

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The following lists the differing points between Models GR-DVL9500EG and GR-DVL9500EK in this series.

	GR-DVL9500EG	GR-DVL9500EK
AC Power Adapter/Charger	AA-V68EG	AA-V68EK

Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

●Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded (▨) parts are critical for safety.
   Replace only with specified part numbers.
   Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Fuse replacement caution notice.
   Caution for continued protection against fire hazard.
   Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers
   4) Insulation sheets for transistors
   5) Barrier

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

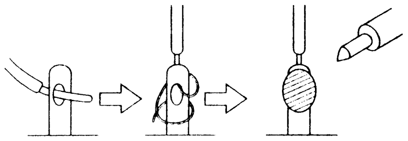


Fig.1

7. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.

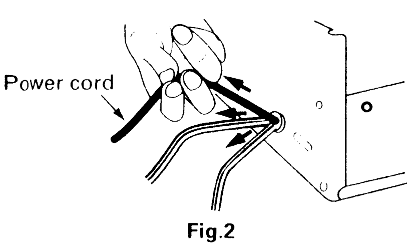


Fig.2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)
    In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector
    In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.

    1) **Connector part number** : E03830-001
    2) **Required tool** : Connector crimping tool of the proper type which will not damage insulated parts.
    3) **Replacement procedure**
       (1) Remove the old connector by cutting the wires at a point close to the connector.
       Important : Do not reuse a connector (discard it).

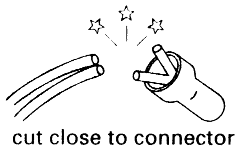


Fig.3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

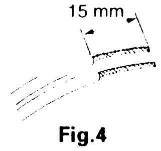


Fig.4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

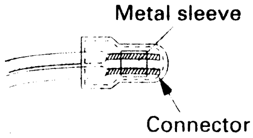


Fig.5

(4) As shown in Fig.6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

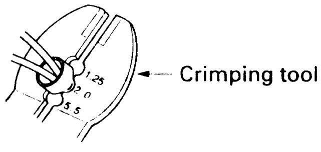


Fig.6

(5) Check the four points noted in Fig.7.

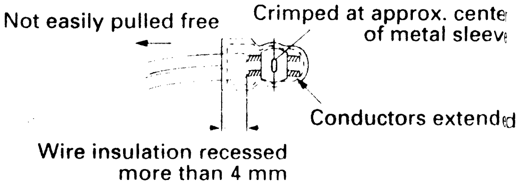

Not easily pulled free
Crimped at approx. center of metal sleeve
Conductors extended
Wire insulation recessed more than 4 mm

Fig.7

• Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. **Insulation resistance test**
   Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. **Dielectric strength test**
   Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. **Clearance distance**
   When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

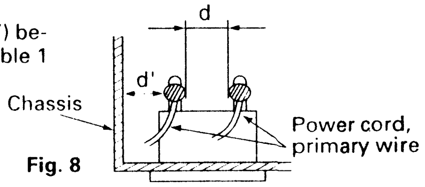


Fig. 8

4. **Leakage current test**
   Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).
   Measuring Method : (Power ON)
   Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

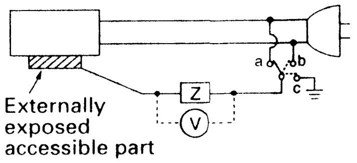


Fig. 9

5. **Grounding (Class I model only)**
   Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).
   Measuring Method:
   Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.

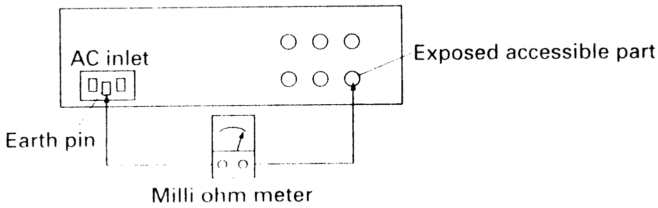


Fig. 10

Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	Z ≦ 0.1 ohm
Europe & Australia	Z ≦ 0.5 ohm

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	R ≧ 1 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3 mm
100 to 240 V			AC 1.5 kV 1 miute	d, d' ≧ 4 mm
110 to 130 V	USA & Canada	1 MΩ ≦ R ≦ 12 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3.2mm
110 to 130 V 200 to 240 V	Europe & Australia	R ≧ 10 MΩ/500 V DC	AC 3 kV 1 minute (Class 2) AC 1.5 kV 1 minute (Class 1)	d ≧ 4 mm d' ≧ 8 mm (Power cord) d' ≧ 6 mm (Primary wire)

Table 1 Specifications for each region

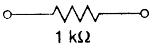
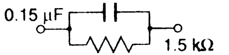
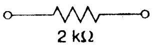
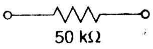
AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	 1 kΩ	i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada	 0.15 μF 1.5 kΩ	i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	 2 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
		 50 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular county and locality.

INSTRUCTIONS (This instruction is for the GR-DVL9500EK /GR-DVL9600EK)

Dear Customer,

Thank you for purchasing this digital video camera. Before use, please read the safety information and precautions contained in the following pages to ensure safe use of this product.

Using This Instruction Manual

- All major sections and subsections are listed in the Table Of Contents (☞ cover page).
- Notes appear after most subsections. Be sure to read these as well.
- Basic and advanced features/operation are separated for easier reference.

It is recommended that you . . .

. . . refer to the Index (☞ pgs. 72 – 76) and familiarize yourself with button locations, etc. before use.

. . . read thoroughly the Safety Precautions. They contain extremely important information regarding the safe use of this product.

You are recommended to carefully read the cautions on pages 77 and 78 before use.

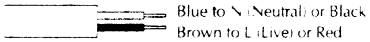
SAFETY PRECAUTIONS

IMPORTANT

Connection to the mains supply in the United Kingdom.

DO NOT cut off the mains plug from this equipment.
If the plug fitted is not suitable for the power points in your home or the cable is too short to reach a power point, then obtain an appropriate safety approved extension lead or consult your dealer.

BE SURE to replace the fuse only with an identical approved type, as originally fitted, and to replace the fuse cover.
If nonetheless the mains plug is cut off be sure to remove the fuse and dispose of the plug immediately, to avoid possible shock hazard by inadvertent connection to the mains supply.
If this product is not supplied fitted with a mains plug then follow the instructions given below:
DO NOT make any connection to the Larger Terminal coded E or Green.
The wires in the mains lead are coloured in accordance with the following code:



If these colours do not correspond with the terminal identifications of your plug, connect as follows:
Blue wire to terminal coded N (Neutral) or coloured black.
Brown wire to terminal coded L (Live) or coloured Red.
If in doubt — consult a competent electrician.

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

Warning on lithium cell battery (for remote control unit)

The battery used in this device may present a fire or chemical burn hazard if mistreated. Do not recharge, disassemble, heat above 100°C or incinerate.
Replace the battery with Maxell, Panasonic (Matsushita Electric), Sanyo or Sony CR2025; use of another battery may present a risk of fire or explosion.

- Dispose of used battery promptly.
- Keep away from children.
- Do not disassemble and do not dispose of in fire.

CAUTIONS:

- To prevent shock, do not open the cabinet. No user serviceable parts inside. Refer servicing to qualified personnel.
- When you are not using the AC Power Adapter/Charger for a long period of time, it is recommended that you disconnect the power cord from AC outlet.

NOTES:

- *The rating plate (serial number plate) and safety caution are on the bottom and/or the back of the main unit.*
- *The rating plate (serial number plate) of the AC Power Adapter/Charger is on its bottom.*

This camcorder is designed to be used with PAL-type colour television signals. It cannot be used for playback with a television of a different standard. However, live recording and LCD monitor/ viewfinder playback are possible anywhere. Use the BN-V607U/V615U battery packs and, to recharge them, the provided multi-voltage AC Power Adapter/Charger. (An appropriate conversion adapter may be necessary to accommodate different designs of AC outlets in different countries.)

This unit is produced to comply with Standard IEC Publ. 65.

SOME DO'S AND DON'TS ON THE SAFE USE OF EQUIPMENT

This equipment has been designed and manufactured to meet international safety standards but, like any electrical equipment, care must be taken if you are to obtain the best results and safety is to be assured.

DO read the operating instructions before you attempt to use the equipment.
DO ensure that all electrical connections (including the mains plug, extension leads and interconnections between pieces of equipment) are properly made and in accordance with the manufacturer's instructions. Switch off and withdraw the mains plug when making or changing connections.
DO consult your dealer if you are ever in doubt about the installation, operation or safety of your equipment.
DO be careful with glass panels or doors on equipment.
DON'T continue to operate the equipment if you are in any doubt about it working normally, or if it is damaged in any way — switch off, withdraw the mains plug and consult your dealer.
DON'T remove any fixed cover as this may expose dangerous voltages.
DON'T leave equipment switched on when it is unattended unless it is specifically stated that it is designed for unattended operation or has a standby mode. Switch off using the switch on the equipment and make sure that your family knows how to do this. Special arrangements may need to be made for infirm or handicapped people.
DON'T use equipment such as personal stereos or radios so that you are distracted from the requirements of road safety. It is illegal to watch television whilst driving.
DON'T listen to headphones at high volume, as such use can permanently damage your hearing.
DON'T obstruct the ventilation of the equipment, for example with curtains or soft furnishings. Overheating will cause damage and shorten the life of the equipment.
DON'T use makeshift stands and NEVER fix legs with wood screws — to ensure complete safety always fit the manufacturer's approved stand or legs with the fixings provided according to the instructions.
DON'T allow electrical equipment to be exposed to rain or moisture.

ABOVE ALL

— NEVER let anyone especially children push anything into holes, slots or any other opening in the case — this could result in a fatal electrical shock:
— NEVER guess or take chances with electrical equipment of any kind — it is better to be safe than sorry!

SAFETY PRECAUTIONS

Do not point the lens or the viewfinder directly into the sun. This can cause eye injuries, as well as lead to the malfunctioning of internal circuitry. There is also a risk of fire or electric shock.

CAUTION! The following notes concern possible physical damage to the camcorder and to the user.

When carrying, be sure to always securely attach and use the provided shoulder strap. Carrying or holding the camcorder by the viewfinder and/or the LCD monitor can result in dropping the unit, or in a malfunction.

Take care not to get your finger caught in the cassette cover. Do not let children operate the camcorder, as they are particularly susceptible to this type of injury.

Do not use a tripod on unsteady or unlevel surfaces. It could tip over, causing serious damage to the camcorder.

CAUTION! Connecting cables (Audio/Video, S-Video, Editing, DC) to the camcorder and leaving the unit on top of the TV is not recommended, as tripping on the cables will cause the camcorder to fall, resulting in damage.

Mini DV
PAL

- This camcorder is designed exclusively for the digital video cassette. Only cassettes marked MiniDV can be used with this unit.

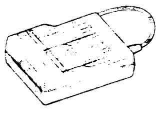
Before recording an important scene . . .

.... make sure you only use cassettes with the Mini DV mark MiniDV.

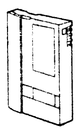
.... remember that this camcorder is not compatible with other digital video formats.

.... remember that this camcorder is intended for private consumer use only. Any commercial use without proper permission is prohibited. (Even if you record an event such as a show, performance or exhibition for personal enjoyment, it is strongly recommended that you obtain permission beforehand.)

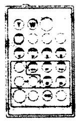
PROVIDED ACCESSORIES



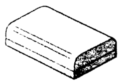
- **AC Power Adapter/ Charger AA-V68EK**



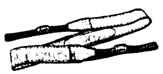
- **MiniDV Cassette Tape 30 Min (DVM-30) M-DV30ME**



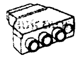
- **Remote Control Unit RM-V711U**



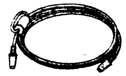
- **Battery Pack BN-V607U**



- **Shoulder Strap**

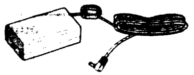


- **Cable Adapter**



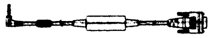
- **S-Video Cable**

- **Editing Cable**

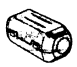


- **DC Cord**

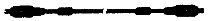
- **Audio/Video (A/V) Cable**



- **JLIP-PC Connection Cable**



- **Core Filter (for microphone and headphone cables) x 2**



- **DV Cable (GR-DVL9600 only)**

- **CD-ROM**
  The CD ROM contains the following 3 software programmes:
  JLIP Video Capture
  JLIP Video Producer
  Presto!
  Mr. Photo/Photo-Album/ImageFolio

- **Lithium Battery CR2025 (for remote control unit)**

- **Cleaning Cloth**

ABOUT DV

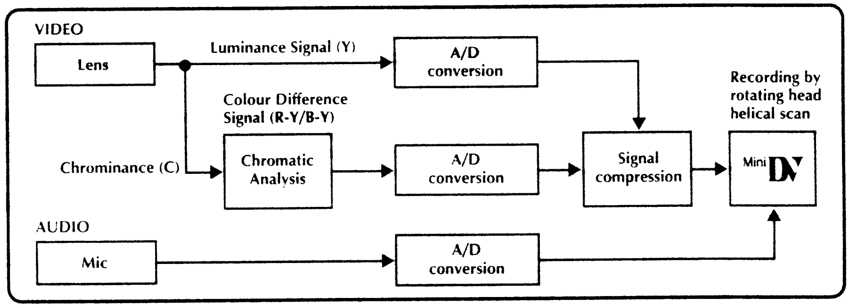
The digital camcorder converts incoming audio and video signals into digital form for recording.

A video signal is composed of a luminance signal (Y) and colour signals (R-Y and B-Y). These signals are identified and recorded digitally (Digital Component Recording). The A/D (Analogue to Digital) converter samples the Y signal at 13.5 MHz, and R-Y and B-Y at 6.75 MHz, and changes them to an 8-bit quantum signal.

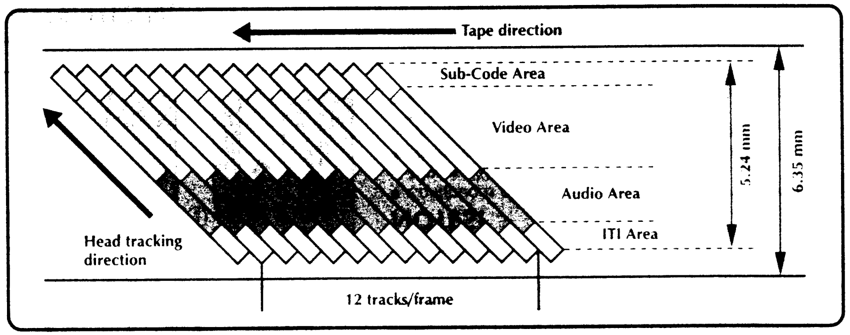
Sound sampled at 48 kHz is changed to a 16-bit quantum signal, and sound sampled at 32 kHz is converted to a 12-bit signal.

NOTE:

The data recorded on a tape is digital, but the output of this camcorder is analogue.



This camcorder separates the data into blocks, writing one block of each data type on each track of the tape.



❶ Sub-Code Area

The Time Code and Date/Time data are written here, separate from the video data. This enables you to display the date and time during playback, even if they weren't displayed while recording.

❷ Video Area

The digital video signal is recorded here.

❸ Audio Area

The digital audio signal is recorded here.

❹ ITI (Insert and Tracking Information) Area

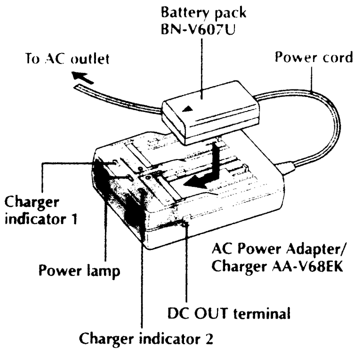
Insert editing and post-recording editing tracking signals are recorded here.

Power

This camcorder's 2-way power supply system lets you choose the most appropriate source of power.

NOTES:

- *No function is available without power supply.*
- *Use only specified power supply.*
- *Do not use provided power supply units with other equipment.*



CHARGING THE BATTERY PACK

1 SUPPLY POWER TO CHARGER

Make sure you unplug the camcorder's DC cord from the AC Power Adapter/Charger.
Plug the AC Adapter/Charger's power cord into an AC outlet. The power lamp comes on.

2 ATTACH BATTERY/BATTERIES

Attach while making sure the ⊕ ⊖ marks are facing down and aligned with the corresponding marks on the AC Power Adapter/Charger.

- The Charger Indicator (1 or 2) begins blinking to indicate charging has started.

3 CONFIRM STATUS

When the charger indicator stops blinking but stays lit, charging is finished.

- If two batteries are attached to the charger, they will be charged in the order that they were attached.

4 DETACH BATTERY/BATTERIES

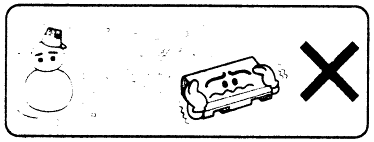
Slide the battery or batteries in the opposite direction of the arrow and lift off. Remember to unplug the AC Adapter/Charger's power cord from an AC outlet.

Charging time

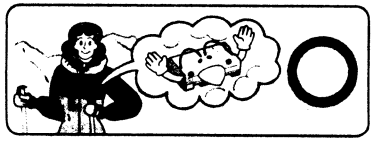
Battery pack	ONE	TWO
BN-V607U	approx. 1 hr. 30 min.	approx. 3 hrs.
BN-V615U	approx. 3 hrs.	approx. 6 hrs.

NOTES:

- *Perform charging where the temperature is between 10° and 30°C. 20° to 25°C is the ideal temperature range for charging. If the environment is too cold, charging may be incomplete.*
- *Charging times noted above are for fully discharged battery pack.*
- *Charging time varies according to the ambient temperature and the status of the battery pack.*
- *To avoid interference with reception, do not use the AC Power Adapter/Charger near a radio.*
- *If you connect the camcorder's DC cord to the adapter during battery charging, power is supplied to the camcorder and charging stops.*
- *Since the AC Power Adapter/Charger processes electricity internally, it becomes warm during use. Be sure to use it only in well-ventilated areas.*
- *When charging the battery pack for the first time or after a long storage period, the charger indicator may not light. In this case, remove the battery pack from the AC Power Adapter/Charger, then try charging again.*
- *If the battery operation time remains extremely short even after having been fully charged, the battery is worn out and needs to be replaced. Please purchase a new one.*



Lithium-ion is vulnerable in colder temperatures.



About Batteries

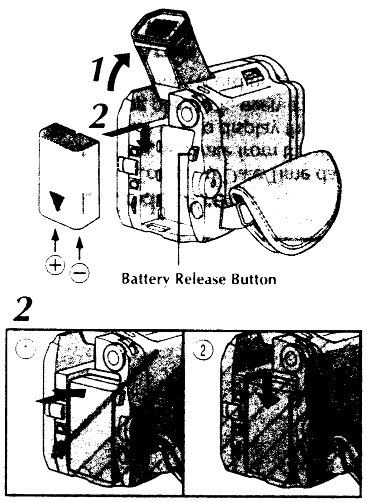
DANGER! Do not attempt to take the batteries apart, or expose them to flame or excessive heat, as it may cause a fire or explosion.

WARNING! Do not allow the battery or its terminals to come in contact with metals, as this can result in a short circuit and possibly start a fire.

The Benefits Of Lithium-Ion Batteries

Lithium-ion battery packs are small but have a large power capacity. However, when one is exposed to cold temperatures (below 10° C), its usage time becomes shorter and it may cease to function. If this happens, place the battery pack in your pocket or other warm, protected place for a short time, then re-attach it to the camcorder. As long as the battery pack itself is not cold, it should not affect performance.

(If you're using a heating pad, make sure the battery pack does not come in direct contact with it.)



USING THE BATTERY PACK

1 TILT VIEWFINDER UPWARD

2 ATTACH BATTERY PACK

With the arrow on the battery pack pointing downward, push the battery pack slightly against the battery pack mount ①, then slide down the battery pack to attach it ②.

- If the battery pack is attached with its ⊕ ⊖ mark set in the wrong direction, a malfunction may occur.

To Detach The Battery Pack. . .

.... tilt the viewfinder upward and slide the battery pack up slightly while pressing the Battery Release Button to detach it.

NOTES:

- *Continuous shooting is possible when the temperature is approx. 20°C.*
- *However, continuous shooting capability is reduced significantly under the following conditions:*
  - *The temperature is below 10°C.*
  - *Zoom or Record-Standby mode is engaged repeatedly.*
  - *The LCD monitor is used repeatedly.*

  Before extended use, it is recommended that you prepare enough battery packs to cover 3 times the planned shooting time.

ATTENTION:

Before detaching the power source, make sure that the camcorder's power is turned off. Failure to do so can result in a camcorder malfunction.

Approximate recording time

Battery pack	LCD monitor on/ Viewfinder off	LCD monitor off/ Viewfinder on	LCD monitor on/ Viewfinder on
BN-V607U	50 min.	65 min.	45 min.
BN-V615U	100 min.	130 min.	90 min.
BN-V856U	6 hrs.	7 hrs. 30 min.	5 hrs. 30 min.

INFORMATION:

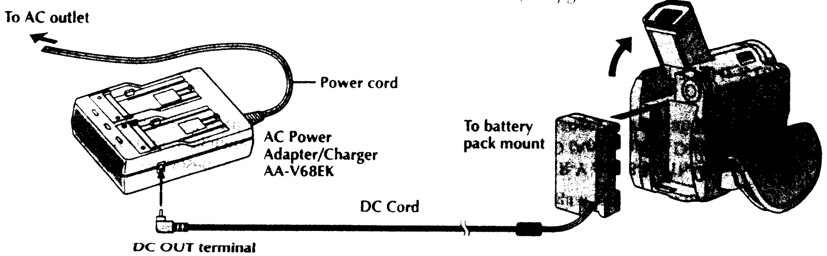
VU-V856KIT is a set composed of the BN-V856U battery pack and AA-V80EK AC Power Adapter/Charger. Also read thoroughly the VU-V856KIT's instruction manuals.
It is impossible to charge the BN-V856U battery pack using the provided AC Power Adapter/Charger. Use the optional AA-V80EK AC Power Adapter/Charger.

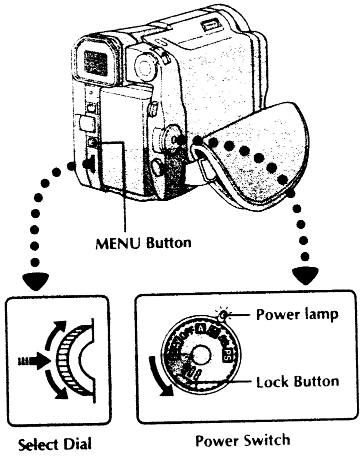
USING AC POWER

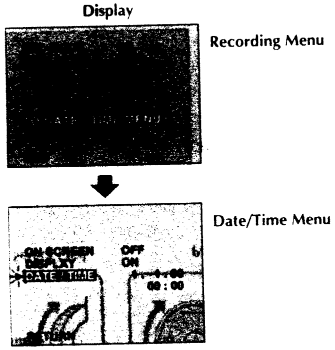
Use the AC Power Adapter/Charger (connect as shown in the illustration).

NOTES:

- *The provided AC Power Adapter/Charger features automatic voltage selection in the AC range from 110 V to 240 V.*
- *For other notes, ☞ pg. 6.*







Date/Time Settings

Date and time will automatically be recorded on tape at all times. It is your choice to display it or not during playback (☞ pg. 47).

1 SELECT OPERATION MODE

Set the Power Switch to "Ⓜ", "5S" or "PS" while pressing down the Lock Button located on the switch, and open the LCD monitor fully or pull out the viewfinder fully.

- The power lamp comes on and the camcorder is turned on.

2 ACCESS RECORDING MENU

Press **MENU**. The Recording Menu appears.

3 ACCESS DATE/TIME MENU

Move the highlight bar to "TO DATE/TIME MENU" by rotating the Select Dial. Press the Select Dial and the Date/Time Menu appears.

4 INPUT DATE AND TIME

Move the highlight bar to "DATE/TIME" by rotating the Select Dial. Press the Select Dial and "day" is highlighted and begins blinking. Rotating the Select Dial, input the day. Press the Select Dial. Repeat the procedure to input the month, year, hour and minute.

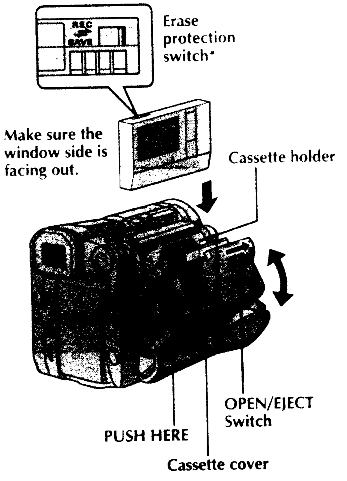
- Press the Select Dial twice when the highlight bar is set to "RETURN" to exit.

Regarding Built-in Clock's Rechargeable Lithium Battery

To store the date/time in memory, a clock's rechargeable lithium battery is integrated in the camcorder. While the camcorder is connected to an AC outlet using the AC Power Adapter/Charger, or while the battery pack attached to the camcorder continues to supply power to the camcorder, the clock's rechargeable lithium battery is always charged. However, if the camcorder is not used for approx. 3 months, the clock lithium battery will become discharged and the date/time stored in memory will be lost. When this occurs, first connect the camcorder to an AC outlet using the AC Power Adapter/Charger etc. for over 24 hours to charge the clock's rechargeable lithium battery. Then perform the date/time setting before using the camcorder.
It is also possible to use the camcorder without the date/time setting.

NOTE:

Even if you select "DATE/TIME", if the parameter is not highlighted the camcorder's internal clock continues to operate. Once you move the highlight bar to the first date/time parameter (day), the clock stops. When you finish setting the minute and press the Select Dial, the date and time begin operation from the date and time you just set.



* ***To Protect Valuable Recordings . . .***

. . . slide the erase protection switch on the back of the tape in the direction of "SAVE". This prevents this tape from being recorded over. If you decide later that you do want to record on this tape, slide the switch back to "REC" before loading the tape.

Loading/Unloading A Cassette

The camcorder needs to be powered up to load or eject a cassette.

1 OPEN CASSETTE COVER

Slide **OPEN/EJECT** in the direction of the arrow then swing the cover open until it locks. The holder opens automatically.

- Do not touch internal components.

2 INSERT/REMOVE TAPE

Insert or remove a tape and press "PUSH HERE" to close the cassette holder.

- Once the cassette holder is closed, it recedes automatically. Wait until it recedes completely before closing the cassette cover.
- When the battery's charge is low, you may not be able to close the cover. Do not apply force. Replace the battery with a fully charged one before continuing.

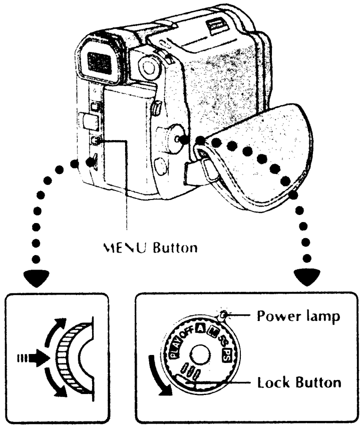
3 CLOSE CASSETTE COVER

Approximate recording time

Tape	Recording mode	
	SP	LP
DVM-30	30 min.	45 min.
DVM-60	60 min.	90 min.

NOTES:

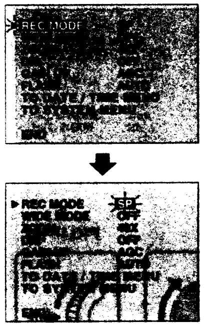
- *It takes a few seconds for the cassette holder to open. Do not apply force.*
- *If you wait a few seconds and the cassette holder does not open, close the cassette cover and try again. If the cassette holder still does not open, turn the camcorder off then on again.*
- *If the tape does not load properly, open the cassette cover fully and remove the cassette. A few minutes later, insert it again.*
- *When the camcorder is suddenly moved from a cold place to a warm environment, wait a short time before opening the cover.*
- *Closing the cassette cover before the cassette holder comes out may cause damage to the camcorder.*
- *Even when the camcorder is switched off, a cassette can be loaded or unloaded. After the cassette holder is closed with the camcorder switched off, however, it may not recede. It is recommended to turn the power on before loading or unloading.*
- *When resuming recording, once you open the cassette cover a blank portion will be recorded on the tape or a previously recorded scene will be erased (recorded over) regardless of whether the cassette holder came out or not. See page 19 for information about recording from the middle of a tape.*



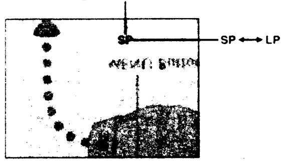
Select Dial

Power Switch

Display



Recording mode indicator



Recording Mode Setting

Set depending on your preference.

1 SELECT OPERATION MODE

Set the Power Switch to “ M ”, “5S” or “ PS ” while pressing down the Lock Button located on the switch, and open the LCD monitor fully or pull out the viewfinder fully.

- The power lamp comes on and the camcorder is turned on.

2 ACCESS RECORDING MENU

Press **MENU**. The Recording Menu appears.

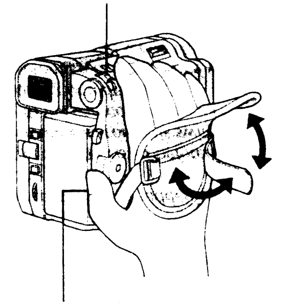
3 SET RECORDING MODE

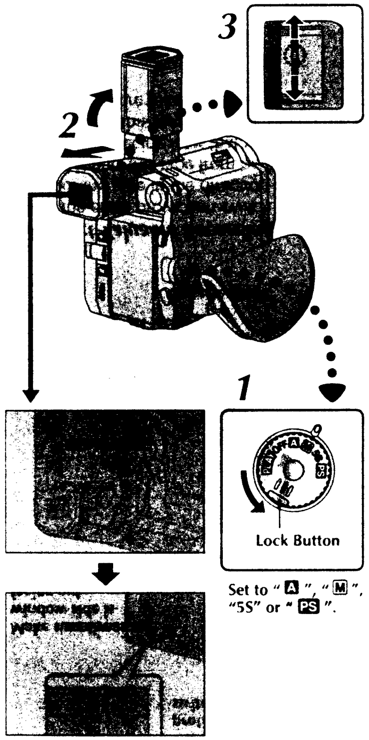
First move the highlight bar to “REC MODE” by rotating the Select Dial. Press the Select Dial and the parameter “SP” or “LP” is highlighted. Select “SP” or “LP” by rotating the Select Dial. Press the Select Dial twice to exit from the Recording Menu.

- Insert Editing or Audio Dubbing is impossible on a tape recorded in the LP mode.
- “LP” (Long Play) is more economical, providing 1.5 times the recording time.

NOTES:

- *If the recording mode is switched during recording, the playback picture will be blurred at the switching point.*
- *It is recommended that tapes recorded in the LP mode on this camcorder be played back on this camcorder.*
- *During playback of a tape recorded on another camcorder, blocks of noise may appear or there may be momentary pauses in the sound.*





Set to “ A ”, “ M ”, “5S” or “ PS ”.

Grip Adjustment

1 EXPAND LOOP

Separate the Velcro strip.

2 INSERT HAND

Pass your right hand through the loop and grasp the grip.

3 ADJUST STRAP LENGTH

Adjust so that your thumb and fingers can easily operate the Recording Start/Stop Button and Power Zoom Lever. Refasten the Velcro strip.

Viewfinder Adjustment

1 SELECT OPERATION MODE

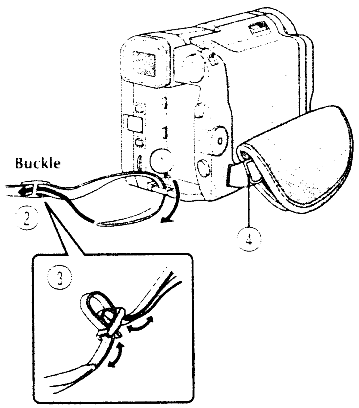
Set the Power Switch to “ A ”, “ M ”, “5S”or “ PS ” while pressing down the Lock Button located on the switch.

2 POSITION VIEWFINDER

Pull out the viewfinder fully and adjust it manually for best viewability (see illustration on left).

3 ADJUST DIOPTER

Turn the Diopter Adjustment Control until the indications in the viewfinder are clearly focused.



Shoulder Strap Attachment

1 ATTACH STRAP

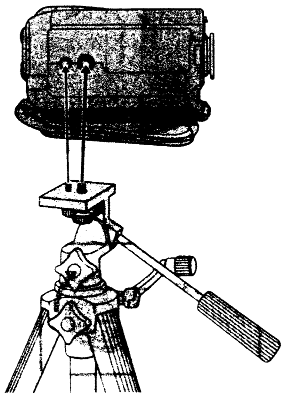
Make sure the battery pack or DC cord is removed. As shown in the illustration on left, thread the strap through the low eyelet ①, then fold it back and thread it through the buckle ②.

2 ADJUST LENGTH

Adjust as shown in the illustration on left ③.

3 ATTACH TO THE OTHER EYELET

Repeat step **1** to attach the other end of the strap to the other eyelet ④, making sure the strap is not twisted.



Tripod Mounting

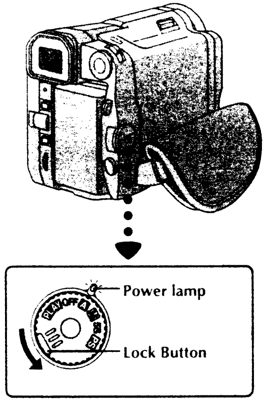
1 ALIGN AND TIGHTEN

Align the screw and camera direction stud on the tripod with the camera's mounting socket and stud hole. Then tighten the screw.

CAUTION:

When using a tripod, be sure to open and extend its legs fully to stabilize the camcorder. To prevent damage to the unit caused by falling over, do not use a small-sized tripod.

To turn on the camcorder, first set the Power Switch to any operation mode except "OFF", then pull out the viewfinder fully or open the LCD monitor. When setting the Power Switch from "OFF" to any other position, press and hold the lock button located on the switch.



Power Switch

According to the Power Switch position you have selected, "F.AUTO" or "MANUAL" appears in the upper left corner.

When set to " A "

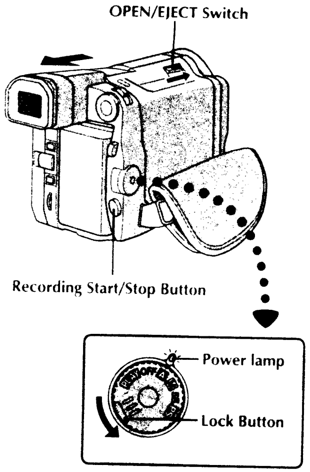
When set to " M ", "5S" or " PS " (When set to "5S", "MANUAL" blinks.)

If you have selected PLAY, then these indications do not appear.

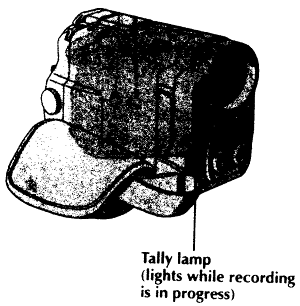
Operation Mode

Tuning the Power Switch allows you to choose the appropriate operation mode among the following modes: Full Auto mode (A), Manual mode (M), 5 second recording mode (5S), Progressive mode (PS) and Playback mode (PLAY).

Power Switch Position		Function
Camera Position	**Full Auto:** **A**	Allows you to record using NO special effects or manual adjustments. Suitable for standard recording.
	Manual: **M**	Allows you to set various recording functions using the Menus. If you want more creative capabilities than Full Auto recording, try this mode.
	5 second recording mode: **5S**	Allows you to record in 5-second clips to keep the action moving. Enables shooting in Manual mode. However, Focus and Exposure are the same as in the Full Auto mode, and it is not possible to change menu settings using the Select Dial.
	Progressive mode: **PS**	Allows you to record moving images (successive jitter-free still images) with superior quality. A high-resolution still image can also be processed on a personal computer or can be printed out.
Playback: **PLAY**		Allows you to play back a recording, ☞ pg. 43 – 51.
OFF		Allows you to switch off the camcorder. After setting to this position, Manual Focus and Exposure Control are automatically reset to "AUTO".



Power Switch



NOTE:

You should already have performed the procedures listed below. If not, do so before continuing.

- *Power (☞ pg. 6)*
- *Recording Mode Setting (☞ pg. 10)*
- *Grip Adjustment (☞ pg. 11)*
- *Viewfinder Adjustment (☞ pg. 11)*

1 LOAD A CASSETTE

Slide **OPEN/EJECT** in the direction of the arrow then swing the cover open until it locks. The holder opens automatically.

Insert a tape and press "PUSH HERE" to close the cassette holder.

- Once the cassette holder is closed, it recedes automatically. Wait until it recedes completely before closing the cassette cover.

Shooting While Watching The Viewfinder

2 ENTER RECORD-STANDBY MODE

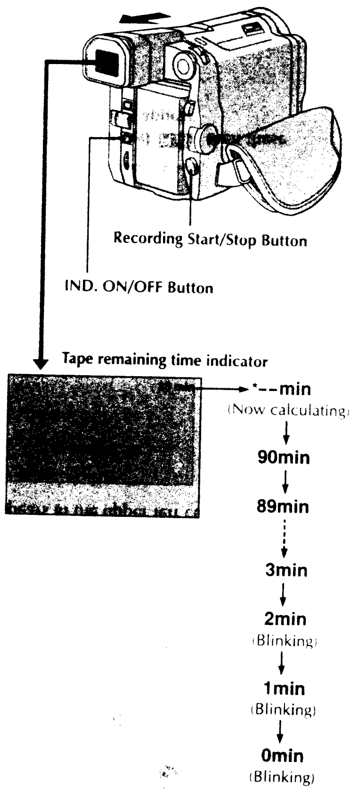
Make sure the LCD monitor is closed and locked. Set the Power Switch to the camera position (" A ", " M ", "5S" or " PS ") while pressing down the Lock Button located on the switch, then pull out the viewfinder fully.

- The lens cover opens, the power lamp lights and the camcorder enters the Record-Standby mode.
- The scene you are aimed at appears on the viewfinder screen, with the word "PAUSE" superimposed upon it.

3 START SHOOTING

Press the Recording Start/Stop Button.

- " REC ▶▶▶ " appears in the viewfinder while recording is in progress.



4 STOP RECORDING

Press the Recording Start/Stop Button again to stop recording.

- The camcorder re-enters the Record-Standby mode.

NOTES:

- *The image will not appear simultaneously in the LCD monitor and the viewfinder. No image appears on the LCD monitor when the viewfinder is pulled out. It is not possible to shoot using both LCD monitor and viewfinder. However, during Interface Shooting (☞ pg. 17) the image appears simultaneously in the LCD monitor and the viewfinder.*
- *The cassette holder cannot be opened unless a power supply is attached.*
- *There may be a delay after you open the cassette cover until the holder opens. Do not use force.*
- *The tape remaining time is only displayed in the viewfinder as shown.*
- *The indicated tape remaining time is approximate.*
- *The time required to calculate and to display the remaining tape length, and the accuracy of the calculation, may vary according to the type of tape used.*
- *"TAPE END" appears when the tape reaches its end, and the power goes off automatically if left in this condition for 5 minutes. "TAPE END" also appears when a cassette whose tape is already at its end is loaded.*
- *If the Record-Standby mode continues for 5 minutes, the camcorder's power shuts off automatically. To turn the camcorder on again, push back and pull out the viewfinder again or close and re-open the LCD monitor.*
- *When a blank portion is left between recorded scenes on the tape, the time code is interrupted and errors may occur when editing the tape. Continue recording from where you stop so that there are no gaps by following "Recording from the middle of a tape" (☞ pg. 19).*
- *During recording, sound is not heard from the speaker. If you want to hear the sound, connect optional headphones to the headphones connector. The sound volume at this point is the same as the level it was adjusted during playback.*
- *To turn the tally lamp off during recording, refer to pgs. 28 and 30.*

LCD Monitor/Viewfinder Indications

You can make the LCD monitor/Viewfinder indications appear/disappear.

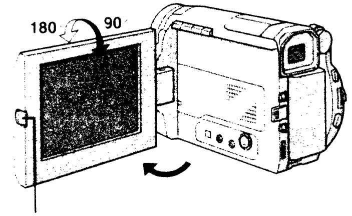
1 PRESS IND. ON/OFF BUTTON

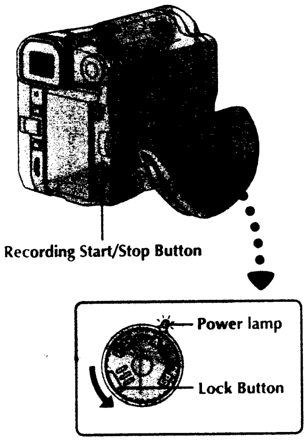
To turn off the indications, press **IND. ON/OFF** for more than 1 second.

Press again for more than 1 second to make the indications reappear.

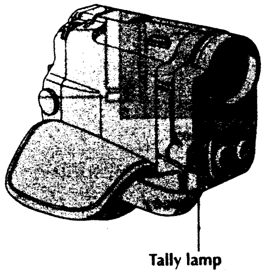
NOTE:

It is impossible to make the tape running indicator "▶▶▶" and warnings etc. disappear from the LCD monitor or the viewfinder. For the indications that can be removed, ☞ pg. 74 and 75.





Power Switch



Shooting While Watching The LCD Monitor

Before the following steps, perform step 1 (☞ pg. 14).

2 ENTER RECORD-STANDBY MODE

Make sure the viewfinder is fully tilted downward and pushed back in. Set the Power Switch to the camera position (" **A** ", " **M** ", "5S" or " **PS** ") while pressing down the Lock Button located on the switch. Press **PUSH-OPEN** and open the LCD monitor fully.

- The lens cover opens, the power lamp lights and the camcorder enters the Record-Standby mode.
- The scene you are aimed at appears in the LCD monitor, with the word "PAUSE" superimposed upon it.

3 START SHOOTING

Tilt the LCD monitor upward/downward for best viewability (☞ pg. 17) and press the Recording Start/Stop Button.

- " REC ▶▶▶ " appears in the LCD monitor while recording is in progress.

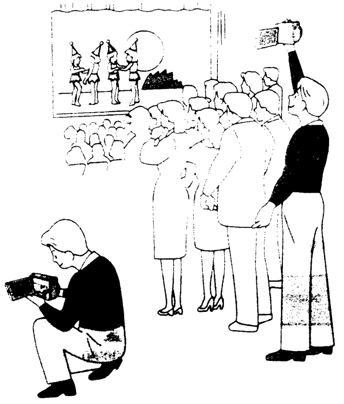
4 STOP RECORDING

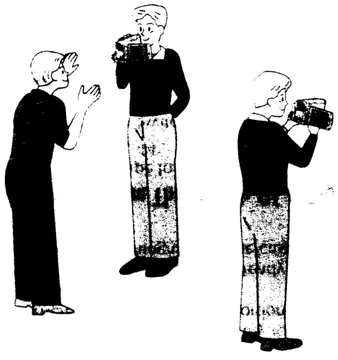
Press the Recording Start/Stop Button again to stop recording.

- The camcorder re-enters the Record-Standby mode.

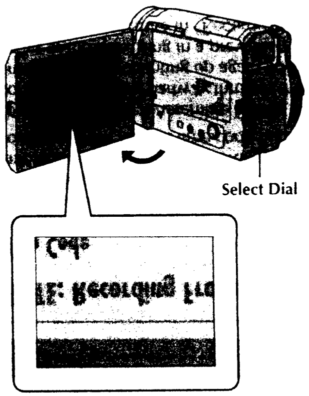
NOTES:

- *When you use the LCD monitor outdoors in direct sunlight, the LCD monitor may be difficult to see. If this happens, we recommend that you use the viewfinder (☞ pg. 14).*
- *To turn the tally lamp off during recording, refer to pgs. 28 and 30.*
- *For other notes, refer to pg. 15.*





Self-Recording



Journalistic Shooting

In some situations different angles of shooting may be required for more dramatic results.

1 OPEN LCD MONITOR

Make sure the LCD monitor is fully open.

2 TILT LCD MONITOR

Tilt the LCD monitor in the most convenient direction.

- The LCD monitor can rotate almost full circle (270°: 90° downward, 180° upward).

Interface Shooting

A person you shoot can view himself/herself in the LCD monitor, and you can even shoot yourself while viewing your own image in the LCD monitor.

1 TILT LCD MONITOR UPWARD

Open the LCD monitor and tilt it upward to 180 degrees so that it faces forward.

- The monitor image is inverted vertically. If the viewfinder is pulled out at that time, it will also switch on.

2 START RECORDING

Point the lens toward the subject (yourself when self-recording) and start recording.

- During Interface Shooting, the "Tape Running" indicator and warning indications (☞ pg. 75) are the only ones that are shown; they appear reversed in the display as they would when viewing a mirror, but are not reversed in the recording.

NOTE:

The tape remaining indicator does not appear during interface shooting. However, when the remaining time reaches 2 minutes, the indicator appears showing the remaining time: ➡ -:-- ▭ (blinking) ➡ -:-- ▭ (blinking) ➡ _ ▭ (blinking)

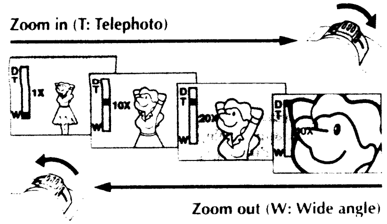
Brightness Control

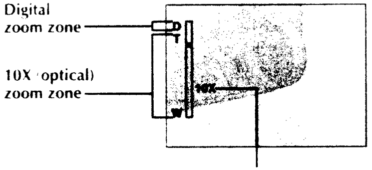
You can adjust the brightness of the display by rotating the Select Dial.

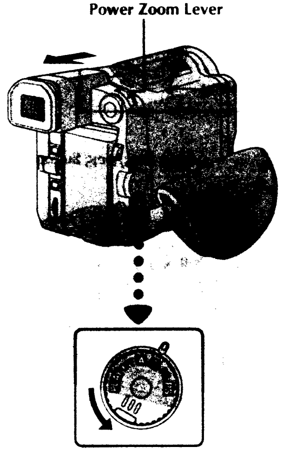
1 ADJUST BRIGHTNESS

Rotate the Select Dial until the brightness indicator moves and the display reaches its appropriate brightness.

- The brightness indication appears on the display.
- If the viewfinder is pulled out, it is also possible to adjust its brightness.


Zoom in (T: Telephoto)
1X
10X
20X
Zoom out (W: Wide angle)


Zoom display
Digital zoom zone
10X (optical) zoom zone
Approximate zoom ratio


Power Zoom Lever
Power Switch

FEATURE: Zooming

PURPOSE:

To produce the zoom in/out effect, or an instantaneous change in image magnification.

OPERATION:

Zoom In

Push the Power Zoom Lever towards "T".

Zoom Out

Push the Power Zoom Lever towards "W".

■ The harder you push the Power Zoom Lever, the quicker the zoom action.

NOTES:

- *Focusing may become unstable during Zooming. In this case, set the zoom while in Record-Standby, lock the focus by using the manual focus (☞ pg. 37), then zoom in or out in Record mode.*
- *In Full Auto mode (when the Power Switch is set to "A"), zoom magnification of up to 40X is possible. In Manual mode (when the Power Switch is set to "M", "5S" or "PS"), zooming is possible to a maximum of 200X or can be switched to 10X magnification offered by optical zoom.*
- *Zoom magnification of over 10X is done through Digital image processing, and is therefore called Digital Zoom.*
- *During Digital zoom, the quality of image may suffer.*
- *Digital zoom cannot be used while functions done through Digital image processing (Digital Image Stabiliser (DIS), ☞ pg. 29, High Speed Recording, ☞ pg. 42, Picture Wipe/Dissolve function, ☞ pg. 32, Snapshot, ☞ pg. 25, Video Echo, ☞ pg. 35 etc.) are activated.*
- *Macro shooting (as close as approx. 1.5 cm to the subject) is possible when the Power Zoom Lever is set all the way to "W". Also see "TELE MACRO" in the System Menu on page 30.*

NOTE: Recording From The Middle Of A Tape

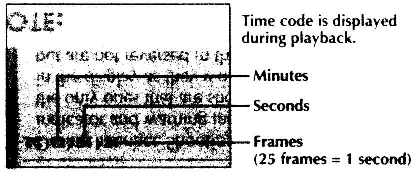
Time Code

During recording, a time code is recorded on the tape. This code is to confirm the location of the recorded scene on the tape during playback.
If recording starts from a blank portion, the time code begins counting from "00:00:00" (minute:second:frame). If recording starts from the end of a previously recorded scene, the time code continues from the last time code number.

To perform Random Assemble Editing (☞ pg. 58 – 63), time code is necessary. If during recording a blank portion is recorded partway through the tape, the time code is interrupted. When recording is resumed, the time code starts counting up again from "00:00:00". This means the camcorder may record the same time codes as those existing in a previously recorded scene. To prevent leaving a blank portion on a tape, perform the procedure in "Recording From The Middle of A Tape" (see below) in the following cases:

- After playing back the recorded tape, when you shoot again.
- When power shuts off during shooting.
- When a tape is removed and re-inserted during shooting.
- When shooting using a partially recorded tape.
- When shooting on a blank portion located partway through the tape.
- When shooting again after already shooting a scene and opening/closing the cassette cover.

Display


Time code is displayed during playback.
Minutes
Seconds
Frames
(25 frames = 1 second)

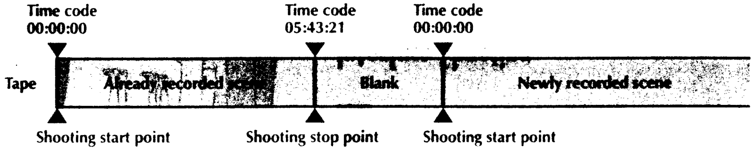
Recording From The Middle Of A Tape

1. Play back a tape to find the spot at which you want to start recording, then engage the Still Playback mode (☞ pg. 44).
2. Set the Power Switch to the camera position ("A", "M", "5S" or "PS") and start recording.

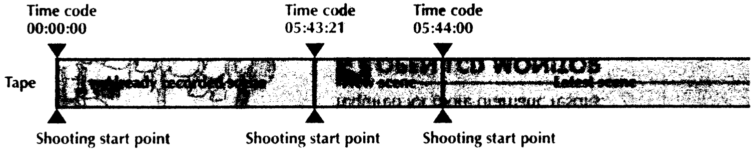
NOTES:

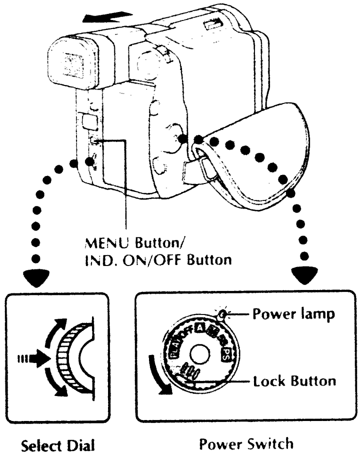
- *The Time Code cannot be reset.*
- *During fast-forwarding and rewinding, time code indication does not move smoothly.*

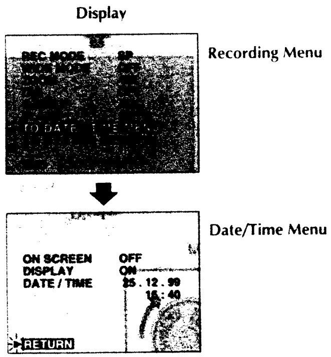
When blank portion is recorded on a tape


Time code
00:00:00
Time code
05:43:21
Time code
00:00:00
Tape
Already recorded scene
Blank
Newly recorded scene
Shooting start point
Shooting stop point
Shooting start point

Proper recording


Time code
00:00:00
Time code
05:43:21
Time code
05:44:00
Tape
Already recorded scene
Latest scene
Shooting start point
Shooting start point
Shooting start point





Displaying The Date And Time During Recording

When the Power switch is set to "Ⓜ", "5S" or "PS", you can choose whether to display the date and time during recording or not. You must first set the date and time ("Date Time Settings", ☞ pg. 8). Set "DISPLAY" to "ON" in the Date/Time Menu. The Date/Time is always displayed when the Power Switch is set to "A".

1 SELECT OPERATION MODE
Set the Power Switch to "Ⓜ", "5S" or "PS" while pressing down the Lock Button.

2 ACCESS RECORDING MENU
Press **MENU**. The Recording Menu appears.

3 ACCESS DATE/TIME MENU
Move the highlight bar to "TO DATE/TIME MENU" by rotating the Select Dial. Press it and the Date/Time Menu appears.

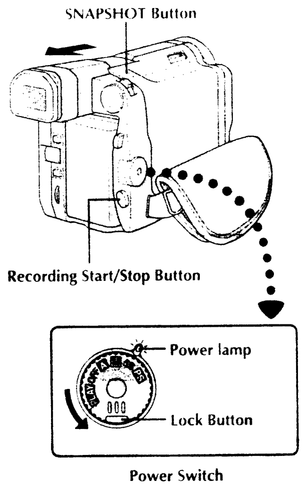
4 SELECT FUNCTION
Move the highlight bar to "DISPLAY" by rotating the Select Dial, then press it.

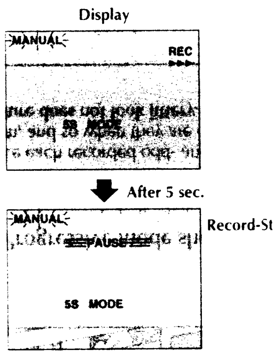
5 SET FUNCTION PARAMETERS
Cycle through the available settings of the selected functions by rotating the Select Dial and stop when the one you want is displayed. Then press it and the highlight bar automatically moves to "RETURN".

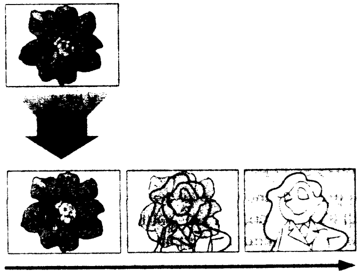
6 CLOSE RECORDING MENU
Press the Select Dial twice. Selection is complete and the menu disappears.

NOTES:

- *Connect the camcorder to a TV and set "ON SCREEN" to "ON" in the Date/Time Menu. The display appears on the connected TV.*
- *The Indicator Display function overrides these settings. Even if you have set "ON SCREEN" to "ON", pressing **IND. ON/OFF** for longer than 1 second removes the indications from the screen. Pressing it for longer than 1 second again makes the indications re-appear ("LCD Monitor/Viewfinder Indications", ☞ pg. 15).*







Dissolves during 5 second recording mode

Scene (5-second recording)

Record a vacation or an important event in 5-second clips to keep the action moving. The 5-Second function may also be activated during Full Auto operation. But the White Balance remains in the previously adjusted condition. While the 5-Second mode is activated, Fade/Wipe effect (☞ pg. 33), Prgram AE with special effects (☞ pg. 35) and other manual operations except the menu settings cannot be performed.

1 SELECT OPERATION MODE
Set the Power Switch to "5S" while pressing down the Lock Button, and pull out the viewfinder fully or open the LCD monitor fully.

- "5S MODE" appears.

2 ENGAGE 5S MODE
Press the Recording Start/Stop Button. The tally lamp lights and beep sounds to indicate the start of recording, and after 5 seconds the camcorder enters Record-Standby mode.

- If you press and hold the Recording Start/Stop Button within 5 seconds after recording starts, Record-Standby mode is not engaged.

3 END 5S MODE
Set the Power Switch to the "A", "Ⓜ", "PS" or "OFF" position.

To Take A Snapshot In The 5-Second Recording Mode . . .
.... instead of pressing the Recording Start/Stop Button in step **2**, set the Snapshot Dial to the desired mode, then press **SNAPSHOT**. The camcorder records a 5-second still (☞ pg. 24). When "SCENE" is set to "ANIM." (☞ pg. 26) this function is not available.

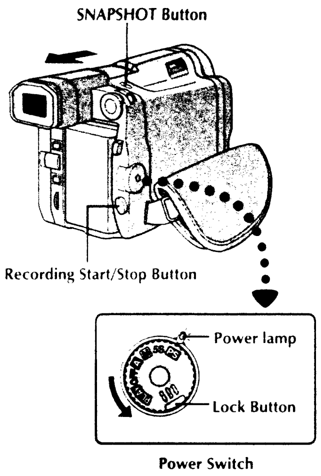
NOTE:

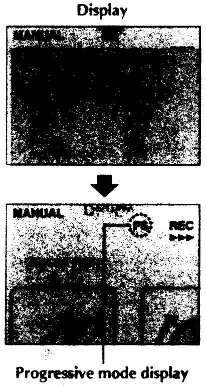
When "SCENE" is set to "ANIM." in the System Menu, the 5-second recording mode is not available. Animation recording of a 1/8-second clip is taken instead (☞ pg. 26).

Dissolves during 5 second recording mode
Select "5SD" at the System Menu (☞ pg. 30). "5SD MODE" appears in step **1**. Record one 5-second clip, and the image at the end of the clip is stored. If you record the next clip within 5 minutes, the previous scene dissolves as the new scene appears.
- If you turn the power off, the stored image will be lost.

NOTE:

When "DIS" is set to "ON" (☞ pg. 29), dissolve is disabled during 5 second recording mode (5SD). Instead, only simple 5-second recording (5S) of scenes takes place.





Progressive Mode Recording

Recording a high-resolution still image. If an image is recorded using the Progressive Mode, it is possible to play back a jitter-free still image with superior quality. A high-resolution still image can also be processed on a personal computer or can be printed out (☞ pg. 50, 51).

1 SELECT OPERATION MODE

Set the Power Switch to " PS " while pressing down the Lock Button located on the switch. Pull out the viewfinder fully or open the LCD monitor fully. The power lamp lights and "PS" appears.

2 START PROGRESSIVE MODE RECORDING

Press the Recording Start/Stop Button. The tally lamp lights.

To End Progressive Video Recording . . .

.... press the Recording Start/Stop Button. The camcorder enters the Record-Standby mode.

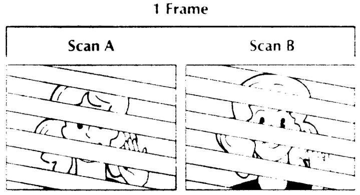
NOTES:

- *When an image recorded using the Progressive Mode is played back, the image may not look natural.*
- *When the Power Switch is set to " PS ", Picture Wipe/ Dissolve (☞ pg. 32) and the modes of Programme AE with special effects other than "SHUTTER", "TWILIGHT", "SEPIA" or "MONOTONE" (☞ pg. 35) cannot be used.*
- *The Pro Snapshot modes other than Multi-Analyser 4 & 9 (☞ pg. 24) are also possible in the Progressive Mode.*

Description of Progressive Scan CCD

Progressive Scan is a special image sensing method which, unlike conventional interlace scanning, is able to pick up all the lines of picture information in one Scan. Since the Progressive Scan CCD is capable of outputting 50 full Frames* per second — twice the amount of conventional systems — it is able to deliver a high quality picture even when its output signal is converted to a format that can be viewed on a TV screen.

* A PAL TV screen image is composed of 25 Frames per second. 1 Frame is made up of 2 Fields.



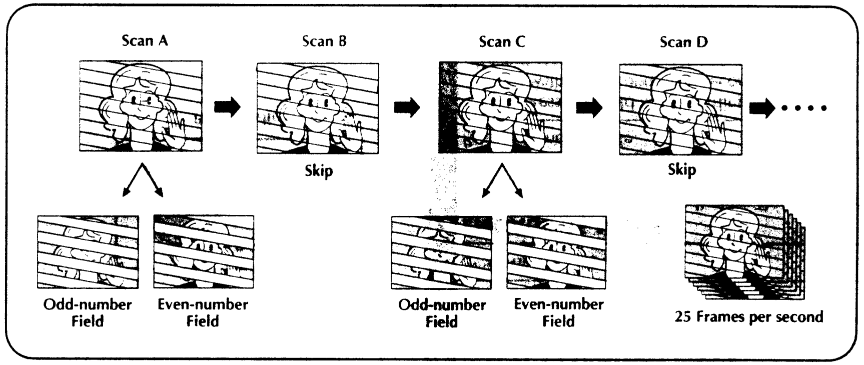
1. Regular shooting of moving images

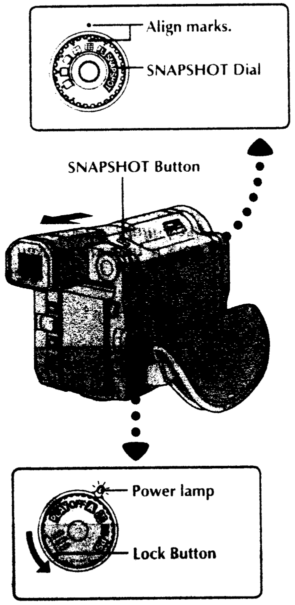
Records 25 odd and 25 even image Fields, for a total of 50 per second. Since there is a time lag between an odd and even Field, when they are combined to make 1 Frame the part of the image that is moving appears as image jitter. **However, during normal playback, the moving picture looks smooth and natural.**

2. Progressive mode shooting of moving images (Progressive Mode Recording ☞ pg. 22)

Scan A is recorded, divided into an odd- and even-number Field, and then Scan B is skipped. Scans C and D are handled in the same way as Scans A and B, as illustrated below, thereby recording 25 Frames per second.

Since each recorded odd- and even-number Field originates from the same Scan there is no time lag between them, and so when they are combined into a Frame and **a still image is displayed on a TV or PC monitor the picture does not look jittery. However, when moving images are played back, the picture can look unnatural.**





Power Switch

Display

During snapshot

Pro Snapshot

Use your camcorder like a regular camera and take a snapshot, or several of them in succession.

PRO SNAPSHOT MODE SELECTION

1 SELECT OPERATION MODE

Set the Power Switch to " A ", " M " or " PS " while pressing down the Lock Button located on the switch, and pull out the viewfinder fully or open the LCD monitor fully.

- When the Power Switch is set to " PS ", Multi-Analyser 4 and Multi-Analyser 9 are not available.

2 SELECT PRO SNAPSHOT MODE

Choose the appropriate mode from among the 6 Pro Snapshot modes (☞ pg. 25) by setting the Snapshot Dial.

PRO SNAPSHOT RECORDING

1 TAKE PRO SNAPSHOT

Press **SNAPSHOT**.

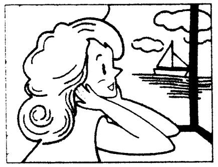
- When the " ϟ " flash ready indicator is displayed, flash takes place.

If you press during Record-Standby . . .

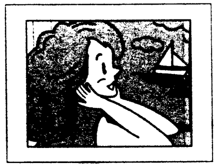
.... "PHOTO" appears and a still image will be recorded for approx. 5 seconds, then the camcorder re-enters the Record-Standby mode.

If you press during Recording . . .

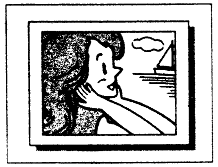
.... "PHOTO" appears and a still image will be recorded for approx. 5 seconds, then the normal recording resumes.



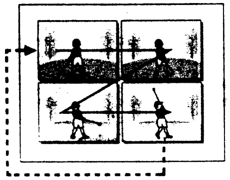
Pro Snapshot mode with no frame*



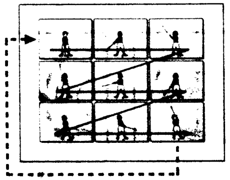
Pro Snapshot mode with frame*



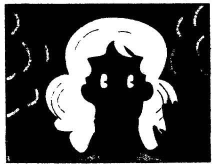
Pin-Up mode



Multi-Analyser 4



Multi-Analyser 9



Nega/Posi mode* √

* :There is a momentary camera shutter-type blackout together with the sound effect of a shutter closing, which is recorded together with the image.

√ :Recorded with Progressive mode.

Motor Drive Mode

Keeping **SNAPSHOT** pressed provides an effect similar to serial photography. (The interval between the still images: approx. 0.7 seconds.)

The flash lights only during the first snapshot (☞ pg. 26).

To Remove The Shutter Sound. . .

.... when you don't want to hear the shutter sound, set BEEP/TALLY to "OFF" in the System Menu (☞ pg. 30). Though the sound is not heard from the speaker, it is recorded on the tape.

Progressive Mode

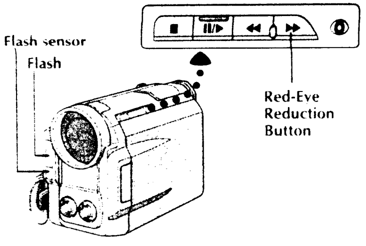
This mode enables recording a jitter-free still image with superior quality, using the Progressive Scan CCD (☞ pg. 23).

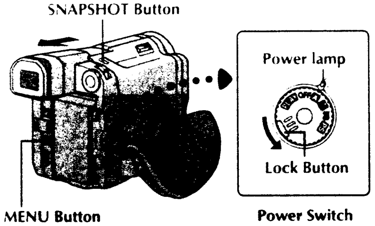
The Progressive Mode is activated during Pro Snapshot recordings (except Multi-Analyser 4 & 9) and Progressive Video Recording (☞ pg. 22).

A recorded high-resolution still image can be transferred to a personal computer and processed using the provided software, or can be printed out using the optional digital printer GV-DT3.

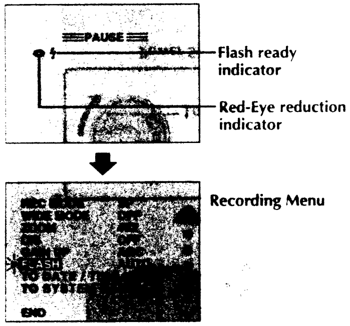
NOTES:

- *Snapshot should not be used when the digital zoom function is used.*
- *"Multi-Analyser 4" and "Multi-Analyser 9" will be disabled when Programme AE with special effects other than "SHUTTER" and "TWILIGHT" (☞ pg. 35) is activated.*
- *"Nega/Posi mode" will be disabled when "CLASSIC FILM", "STROBE", "SLOW" or "VIDEO ECHO" of Programme AE with special effects (☞ pg. 35) is activated.*
- *If the camcorder is in a dark lit environment with "GAIN UP" set to "AUTO A☼ " on the Recording Menu (☞ pg. 29), Auto Slow Shutter ("AUTO A☼ ") will be activated and "Multi-Analyser 4", "Multi-Analyser 9" and "Nega/Posi mode" will be disabled.*
- *During playback as well, all Pro Snapshot modes except Nega/Posi mode are available. The shutter sound is not heard.*
- *To reduce the Red-Eye effect of the subject's eyes when the flash lights, ☞ pg. 26.*
- *When a cable or headphone set is connected to the AV OUT connector, the shutter sound is not heard, however it is recorded onto the tape.*





Display



Snapshot Flash (Auto Flash)

During Full Auto mode, or Manual mode when "FLASH" is set to "AUTO" in the Recording Menu, the flash automatically lights at the subject if it's dark (ϟ appears) when taking a snapshot in Record-Standby.
By setting "FLASH" to "ON" or "OFF" in the Recording Menu, the flash can be activated or deactivated on demand.

1 ENGAGE RECORD-STANDBY

Set the Power Switch to "A", "M", "5S" or "PS" while pressing down the Lock Button located on the switch, and pull out the viewfinder fully or open the LCD monitor fully.

If the Power Switch is set to "A" . . .
.... go to step 5.

If the Power Switch is set to "M", "5S" or "PS" . . .
.... go to step 2.

2 ACCESS RECORDING MENU

Press **MENU**. The Recording Menu appears.

3 SELECT FUNCTION

Rotate the Select Dial to move the highlight bar to "FLASH", then press it.

4 SELECT FUNCTION PARAMETERS

Rotate the Select Dial to display the desired parameter ("AUTO", "ON" or "OFF") and press it. "FLASH" stops blinking and setting is complete. Press the Select Dial once. The normal screen reappears.

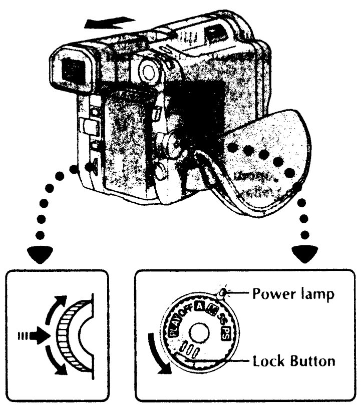
5 TAKE SNAPSHOT

Press **SNAPSHOT**.

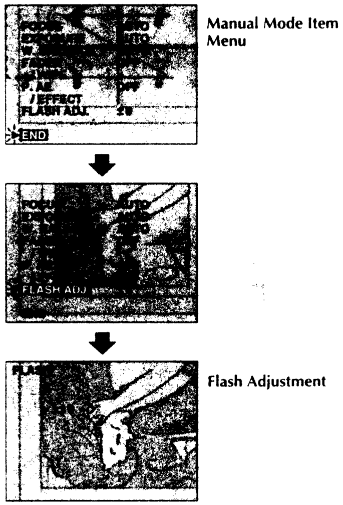
To Reduce The Red-Eye Effect Of The Subject's Eyes . . .
.... it is recommended that you use this function when shooting a person. When "👁" appears, press the Red-Eye Reduction Button (▶▶). The 👁 Red-Eye reduction indicator lights, then press **SNAPSHOT**. The flash lights twice. The first flash is for reduction of the human eye's red reflection and the second flash is for actual recording.

NOTES:

- *Do not flash at a person at short range.*
- *In Multi-Analyser 4, Multi-Analyser 9 or Nega/Posi mode, the flash is disabled (☞ pg. 25).*
- *The flash does not light when the flash is set to "OFF" on the recording menu and also when the battery remaining power is low. Moreover, the flash does not light when it is set to "AUTO" on the recording menu with GAIN UP set to "OFF" (☞ pg. 29) and with Programme AE with special effects set to "TWILIGHT" ☞ pg. 34).*
- *When taking several snapshots in succession (Motor Drive Mode), the flash lights only during the first one.*
- *Although images shot with a flash tend to look whiter than they actually are, to compensate for this camcorder automatically darkens the picture when using the flash. When shooting a subject at a distance where the flash light cannot reach (over approx. 2 m), set the flash to "OFF" to prevent the picture from becoming too dark.*
- *The colour tone changes depending on the background lighting conditions, such as under fluorecent or halogen lamps.*
- *When you want to change the brightness of the flash, refer to "Flash Brightness Adjustment" (☞ pg. 27).*
- *While charging the flash, ϟ blinks and the flash does not light. Although noise may appear, this is not a malfunction. This is not recorded. It can take up to ten seconds to charge the flash.*



Display



Flash Brightness Adjustment

When a snapshot (☞ pg. 24) is taken in the dark the camcorder flashes (☞ pg. 26) while adjusting the brightness automatically. You can also adjust the flash brightness manually. When you find that the snapshots you took look too bright or too dark, adjust it manually.

1 SELECT OPERATION MODE

Set the Power Switch to "M" or "PS" while pressing down the Lock Button, and pull out the viewfinder fully or open the LCD monitor fully.

2 ACCESS MANUAL MODE ITEM MENU

Press the Select Dial and move the highlight bar to "FLASH ADJ." by rotating the Select Dial.

3 ACCESS FLASH ADJUSTMENT

Press the Select Dial.
The Manual Mode Item Menu disappears, "FLASH" appears in the upper left corner and a number appears next to the indication to allow adjustment of the flash manually on the screen.

4 ADJUST BRIGHTNESS OF FLASH

Rotating the Select Dial upward increases the number of the brightness adjustment indicator and rotating the Select Dial downward decreases it.

- The adjustment range is from –3 to +3.

5 ACTIVATE BRIGHTNESS OF FLASH

Press the Select Dial. The flash brightness adjustment is complete. The indication "FLASH" changes to "MANUAL".

NOTES:

- *When the battery power is low or when "FLASH" is set to "OFF" in the Recording Menu, the screen to set "FLASH ADJ." does not appear.*
- *When you change the subject you are shooting or the shooting location, set it back to ±0 as described in step 4 and take a snapshot to check the flash brightness. After doing this adjust to your desired brightness.*

Using Menu For Detailed Adjustment

This camcorder is equipped with an easy-to-use, on-screen menu system that simplifies many of the more detailed camcorder settings.

1 ACCESS RECORDING MENU

Set the Power Switch to " M ", "5S" or " PS " while pressing down the Lock Button, and pull out the viewfinder fully or open the LCD monitor fully. Then press **MENU**. The Recording Menu appears.

2 SELECT FUNCTION

Rotate the Select Dial to move the highlight bar to the desired function.

- If the setting you want cannot be found in the Menu Screen, place the highlight bar on "END", then go to step **6**.

3 MAKE SETTING

Press the Select Dial. The setting procedure depends on the function you select.

If you select a function other than "TO DATE/TIME MENU" or "TO SYSTEM MENU" . . .

.... each function's parameter starts blinking. Rotate the Select Dial until the desired parameter appears. Go to step 5.

If you select "TO DATE/TIME MENU" . . .

.... the Date/Time Menu appears. Go to step **4**.

If you select "TO SYSTEM MENU" . . .

.... the System Menu appears. Go to step **4**.

4 SELECT FUNCTION PARAMETERS IN DATE/TIME MENU OR SYSTEM MENU

Rotate the Select Dial to move the highlight bar to the desired function, then press it.

If you select "DATE/TIME" . . . ☞ pg. 8

If you select other functions . . .

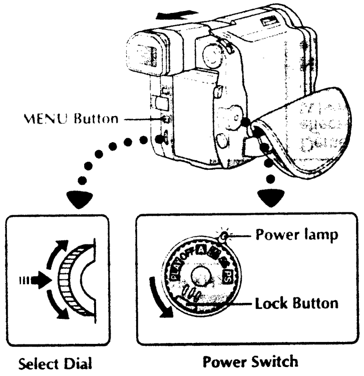
.... rotate the Select Dial until the desired parameter appears, then press it. The highlight bar automatically moves to "RETURN". Go to step 5.

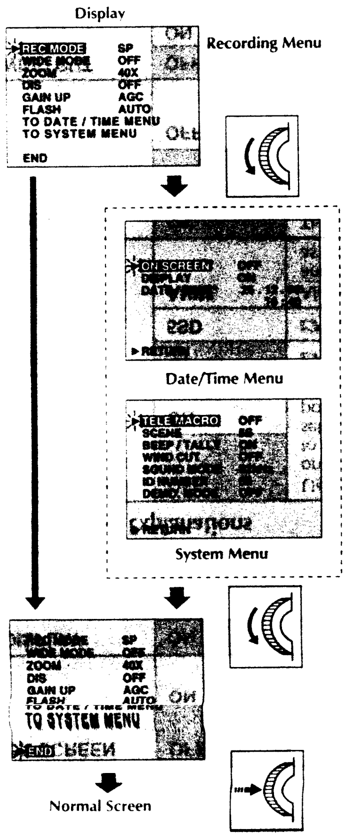
5 END SETTING

Press the Select Dial. The Recording Menu reappears with the highlight bar on "END".

6 CLOSE MENU SCREEN

Press the Select Dial. The normal screen reappears.





Recording Menu Explanations

REC MODE	Allows you to set the recording mode (SP or LP) depending on your preference (☞ pg. 10).	
WIDE MODE	**OFF**	Select "OFF" when you want to use neither "SQUEEZE" nor "CINEMA".
	SQUEEZE	For playback on TVs with an aspect ratio of 16:9. Naturally expands the image to fit the screen without distortion. W appears. When using this mode, refer to your wide-screen TV's instruction manual. During playback/recording on 4:3 TVs/LCD monitor/viewfinder, the image is elongated vertically.
	CINEMA	Inserts black bands at the top and bottom of the screen. During playback on wide-screen TVs, the black bands at the top and bottom of the screen are cut and the screen ratio becomes 16:9. When using this mode, refer to your wide-screen TV's instruction manual. During playback/recording on 4:3 TVs/LCD monitor/viewfinder, black bands are inserted at the top and bottom of the screen and the image appears like a letterboxed 16:9 movie.
ZOOM	**10X**	When set to "10X" while using digital zoom, the zoom magnification will reset to 10X since digital zoom will be disengaged.
	40X	Allows you to use the Digital Zoom. By digitally processing and magnifying images, zooming is possible from 10 times (the optical zoom limit), to a maximum of 40 times digital magnification.
	200X	Allows you to use the Digital Zoom. By digitally processing and magnifying images, zooming is possible from 10 times (the optical zoom limit), to a maximum of 200 times digital magnification.
DIS	**OFF**	To compensate for unstable images caused by camera-shake, particularly at high magnification. **NOTES:** ● Accurate stabilisation may not be possible if hand shake is excessive, or under the following conditions: • When shooting subjects with vertical or horizontal stripes. • When shooting dark or dim subjects. • When shooting subjects with excessive backlighting. • When shooting scenes with movement in various directions. • When shooting scenes with low-contrast backgrounds. ● Switch off the Digital Image Stabiliser (DIS) when recording with the camcorder on a tripod. ● The " " indicator appears blinking if the Stabiliser cannot be used.
	ON	
GAIN UP	**AGC**	This is automatically activated during Full Auto mode. The overall appearance is jagged, but the image is bright.
	AUTO A	The shutter speed is automatically adjusted (1/25 — 1/200 sec.). Shooting a subject in low or poor lighting at 1/25 sec. shutter speed provides a brighter image than in the AGC mode, but the subject's movements are not smooth or natural. When set to this mode, " **A** " is displayed.
	OFF	Allows you to shoot dark scenes with no picture brightness adjustment.
FLASH	**AUTO**	Flash automatically takes place in the dark (☞ pg. 26).
	OFF	To take a snapshot without flash even in the dark. Since the shutter speed becomes slow, use a tripod to avoid camera shake.
	ON	To emit flash on demand when taking a snapshot.
TO DATE/TIME MENU	Refer to "Date/Time Menu Explanations" (☞ pg. 30).	
TO SYSTEM MENU	Refer to "System Menu Explanations" (☞ pg. 30).	

▭ : **Factory-preset**

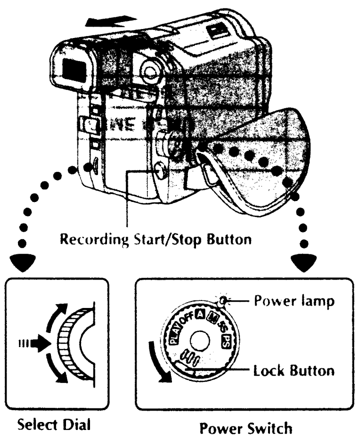
Date/Time Menu Explanations

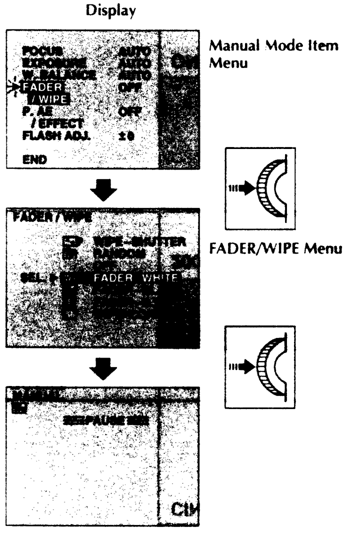
ON SCREEN	**OFF**	Keeps the camcorder's display from appearing on the connected TV screen.
	ON	Makes the camcorder's display appear on screen when the camcorder is connected to a TV.
DISPLAY	**ON**	Makes the date/time settings appear in the camcorder (☞ pg. 20).
	OFF	Keeps the date/time settings from appearing in the camcorder.
DATE/TIME		Allows you to set the current date and time (☞ pg. 8).

System Menu Explanations

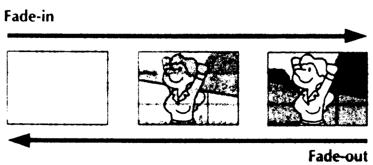
TELE MACRO	**OFF**	Usually the distance to a subject where the lens is in focus depends on the zoom magnification. Unless there is a distance more than 1m to the subject, the lens is out of focus at the maximum telephoto setting. When set to "ON", you can shoot a subject as large as possible at a distance of approx. 60 cm. • Depending on the zoom position, the lens may go out of focus.
	ON	
SCENE	**5S**	☞ pg. 21.
	5SD	☞ pg. 21.
	ANIM.	Allows you to record a 1/8-second clip. By using an inanimate object and changing its position between shots, you can record the subject as though it is moving (☞ pg. 21).
BEEP/TALLY	**ON**	The tally lamp comes on to signal the start of recording. The beep sounds when the power is turned on or off, and at the beginning and end of recording. Also to activate the shutter sound effect (☞ pg. 25).
	OFF	The tally lamp remains off at all times. Even though not heard while shooting, shutter sound is recorded on the tape.
WIND CUT	**OFF**	Disengages the function which cuts down on noise created by wind.
	ON	Helps cut down on noise created by wind. • " ✇ " appears. • The quality of the sound will change. This is normal.
SOUND MODE	**32 kHz**	Enables recording of stereo sound on four separate channels, and is recommended for use when performing audio dubbing with another digital camcorder.
	48 kHz	Enables recording of stereo sound on two separate channels.
ID NUMBER		This number is necessary when connecting the camcorder to a device such as a computer using the J terminal (JLIP). The numbers range from 01 to 99. Factory setting is 06.
DEMO. MODE	**OFF**	Automatic demonstration will not take place.
	ON	Demonstrates certain functions such as Programme AE with special effects, etc., and can be used to confirm how these functions operate. When "DEMO. MODE" is set to "ON" and the Recording Menu is closed, demonstration starts. **NOTES:** • *If a tape is in the camcorder, the demonstration cannot be turned on.* • *By turning off the camcorder, "DEMO. MODE" is set to "OFF" automatically.*

▭ : Factory-preset





[Ex.: WH FADER – WHITE]



Fade/Wipe Effects

IMPORTANT:

If certain modes of Programme AE with special effects (☞ pg. 34) are activated, some Fade/Wipe Effects cannot be used. If you select a Fade/Wipe Effect that is unusable in the current situation, the indication blinks.

These effects let you make pro-style scene transitions. Use these to spice up the transition from one scene to the next. You can also vary transitions from scene to scene.

EFFECT SELECTION

1 SELECT OPERATION MODE
Set the Power Switch to " M " or " PS " while pressing down the Lock Button located on the switch, and pull out the viewfinder fully or open the LCD monitor fully.

2 ACCESS MANUAL MODE ITEM MENU
Press the Select Dial. The Manual Mode Item Menu appears.

3 ACCESS "FADER/WIPE" MENU
Rotate the Select Dial to move the highlight bar to "FADER/WIPE", then press it.

4 SELECT EFFECT
Rotate the Select Dial to move the highlight bar to the desired function, then press it.

- The FADER/WIPE Menu disappears and the effect is reserved. The indicator representing the selected effect appears.

FADE/WIPE SELECTION (WH, BK, B.W, ◣, □, ◀, ◀▶, ▲, ▲▼ and ?R)

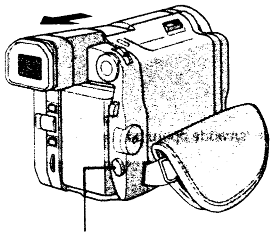
A scene gradually appears on a black, white, or black-and-white screen (Fade-in or Wipe-in); or disappears, leaving a black, white, or black-and-white screen (Fade-out or Wipe-out).

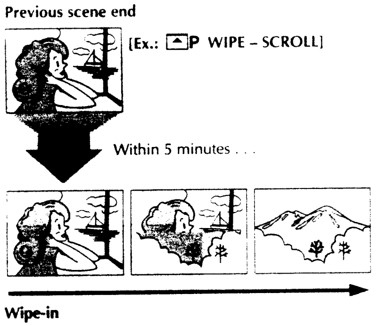
Fade or Wipe works when recording is started or when you stop recording.
Before the following step, perform the above steps 1 through 4.

5 START OR END RECORDING
Press the Recording Start/Stop Button to activate Fade-in/out or Wipe-in/out.

NOTE:

☞ *pg. 32.*





PICTURE WIPE OR DISSOLVE SELECTION (⧉P, ◣P, □P, ◀P, ◀▶P, ▲P and ▲▼P)

Combine the Picture Wipe and Dissolve functions for a professional transition effect. There are 6 Picture Wipe effects and 1 Dissolve effect. The Picture Wipe or Dissolve works when recording is started.

Before the following steps, perform steps 1 through 4 on pg. 31.

5 STORE SCENE IN MEMORY

Engage the Record-Standby mode.

If you select Picture Wipe/Dissolve during recording . . .

.... press the Recording Start/Stop Button when one scene is finished. The point at which the scene ended is stored in memory.

If you select Picture Wipe/Dissolve during Record-Standby mode . . .

.... press the Recording Start/Stop Button to start recording and press it again when one scene is finished. The point at which the scene ended is stored in memory.

If you select Picture Wipe/Dissolve during Record-Standby mode after performing a Picture Wipe/ Dissolve . . .

.... the point at which the scene ended is already stored in memory.

6 START RECORDING

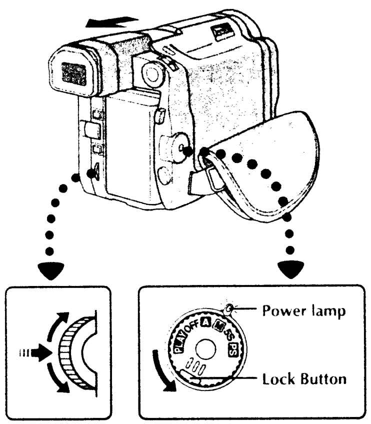
If you start recording a new scene within 5 minutes of the end of the previous recording (without having turned the camcorder's power off), the previous scene wipes out, revealing the new scene.

NOTES:

- *You can extend the length of a Fade or Wipe by pressing and holding the Recording Start/Stop Button.*
- *If the power is turned off after a scene is finished recording, the stored point is erased.*
  This disables the Picture Wipe/Dissolve combination. When this happens, the Picture Wipe/Dissolve indicator blinks. Try recording again, but do not turn the power off when you are finished. Please be advised that power also shuts off automatically if 5 minutes elapse in the Record-Standby mode.
- *The sound at the end of the last recorded scene is not stored.*
- *When "DIS" is set to "ON" (☞ pg. 29), Picture Wipe/Dissolve is disabled.*

Fader And Wipe Menu

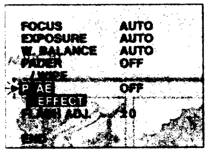
Menu	Effect
WH FADER — WHITE	Fade in or out with a white screen.
BK FADER — BLACK	Fade in or out with a black screen.
B.W FADER — B.W	Fade in to a colour screen from a black and white screen, or fade out from colour to black and white.
◣ WIPE — CORNER	Wipe in on a black screen from the upper right to the lower left corner, or wipe out from lower left to upper right, leaving a black screen.
□ WIPE — WINDOW	The scene starts in the centre of a black screen and wipes in toward the corners, or comes in from the corners, gradually wiping out to the centre.
◀ WIPE — SLIDE	Wipe in from right to left, or wipe out from left to right.
◀▶ WIPE — DOOR	Wipe in as the two halves of a black screen open to the left and right, revealing the scene, or wipe out and the black screen reappears from left and right to cover the scene.
▲ WIPE — SCROLL	The scene wipes in from the bottom to the top of a black screen, or wipes out from top to bottom, leaving a black screen.
▲▼ WIPE — SHUTTER	Wipe in toward the centre of a black screen from the top and bottom, or wipe out from the centre toward the top and bottom, leaving a black screen.
⧉P DISSOLVE	The new scene gradually appears as the old one gradually disappears.
◣P WIPE — CORNER	The new scene wipes in over the previous one from the upper right corner to the lower left corner.
□P WIPE — WINDOW	The next scene gradually wipes in from the centre of the screen toward the corners, covering the previous scene.
◀P WIPE — SLIDE	The next scene gradually wipes in over the previous one from right to left.
◀▶P WIPE — DOOR	The previous scene wipes out from the centre to the right and left, like a door being pushed open to reveal the next scene.
▲P WIPE — SCROLL	The new scene wipes in over the last one from the bottom of the screen to the top.
▲▼P WIPE — SHUTTER	The new scene wipes in over the previous one from the centre toward the top and bottom of the screen.
?R RANDOM	When this function is activated, the camcorder randomly selects the effect used in scene transition (from WH, BK, □, ▲, ▲▼, ◀, ◀▶ and ◣). The Picture Wipe/Dissolve function is not available.



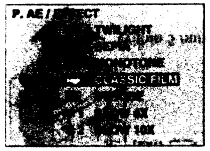
Select Dial

Power Switch

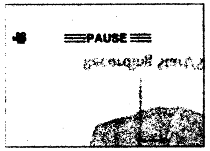
Display



Manual Mode Item Menu



P.AE/EFFECT Menu



The indicator for the selected mode appears, and the selected mode is engaged.

Programme AE With Special Effects

IMPORTANT:

If certain Fades or Wipes (☞ pg. 33) are activated, some modes of Programme AE with special effects cannot be used. If you select a mode that is unusable in the current situation, the mode's symbol blinks.

You can choose any one of the effects from the P.AE/EFFECT Menu.

1 SELECT OPERATION MODE

Set the Power Switch to "Ⓜ" or "PS" while pressing down the Lock Button located on the switch, and pull out the viewfinder fully or open the LCD monitor fully.

2 ACCESS MANUAL MODE ITEM MENU

Press the Select Dial. The Manual Mode Item Menu appears.

3 ACCESS "P.AE/EFFECT" SELECT MENU

Rotate the Select Dial to move the highlight bar to "P.AE/EFFECT", then press it.

4 SELECT MODE

Move the highlight bar to the desired mode by rotating the Select Dial, then press it.

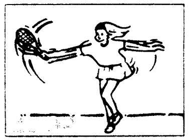
- The P.AE/EFFECT Menu disappears and the selected mode is activated. The symbol of the selected mode appears.

5 DISABLE MODE

To turn off the selected mode, re-access the P.AE/EFFECT Menu and move the highlight bar to "OFF" by rotating the Select Dial. Then press it.

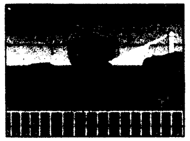
NOTES:

- *Programme AE with special effects can be changed during recording or during Record-Standby.*
- *When "DIS" is set to "ON", "VIDEO ECHO" is disabled.*
- *Even if you set "DIS" to "ON" (☞ pg. 29) with "CLASSIC FILM", "STROBE" or "SLOW" activated, "DIS" will be disabled.*



SHUTTER (Variable Shutter Speed)

1/50–The shutter speed is fixed at 1/50th of a second. Black bands that usually appear when shooting a TV screen become narrower.
1/100–The shutter speed is fixed at 1/100th of a second. The flickering that occurs when shooting under a fluorescent light or mercury-vapor lamp is reduced.
1/250, 1/500–These settings allow fast-moving images to be captured one frame at a time, for vivid, stable slow-motion playback. The faster the shutter speed, the darker the picture becomes. Use the shutter function under good lighting conditions.



TWILIGHT

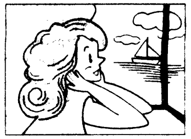
Makes evening scenes look more natural. White Balance (☞ pg. 40) is initially set to ☀, but can be changed to your desired setting. When Twilight is chosen, the camcorder automatically adjusts the focus from approx. 10 m to infinity. From less than 10 m, adjust the focus manually.

SEPIA

Recorded scenes have a brownish tint like old photos. Combine this with the Cinema mode for a classic look.

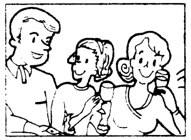
B/W MONOTONE

Like classic black and white films, your footage is shot in B/W. Used together with the Cinema mode, it enhances the "classic film" effect.



CLASSIC FILM

Gives recorded scenes a strobe effect.



STROBE

Your recording looks like a series of consecutive snapshots.

SLOW (Slow Shutter)

You can light dark subjects or areas even brighter than they would be under good natural lighting.

1 SLOW 4X

The Shutter Speed is set to 1/12.5th of a second to quadruple the sensitivity.

2 SLOW 10X

The Shutter Speed is set to 1/5th of a second to provide 10 times the sensitivity.

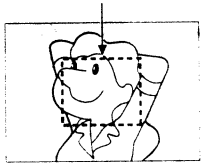
NOTES:

- *When using "SLOW", the image takes on a strobe-like effect.*
- *Use "SLOW" only in dark areas.*
- *The Manual Focus indication may appear and flash when "SLOW" is in use.*
- *If the image is out of focus, adjust manually. It is also recommended that you use a tripod, if possible.*

VIDEO ECHO

Adds a "ghost" to the subject, giving your recording a "fantasy" feeling.

Focus detection zone



Focusing

AUTO FOCUS

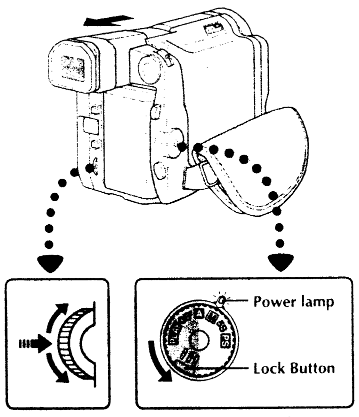
The camcorder's Full Range AF system offers continuous shooting ability from close-up (as close as approx. 1.5 cm to the subject) to infinity. However, correct focus may not be obtainable in the situations listed below (in these cases use manual focusing):

- When two subjects overlap in the same scene.
- When illumination is low.*
- When the subject has no contrast (difference in brightness and darkness), such as a flat, one-colour wall, or a clear, blue sky.*
- When a dark object is barely visible in the viewfinder.*
- When the scene contains minute patterns or identical patterns that are regularly repeated.
- When the scene is affected by sunbeams or light reflecting off the surface of a body of water.
- When shooting a scene with a high-contrast background.

* The following low-contrast warnings appear blinking: ▲, ▲, ▼ and ▲

NOTES:

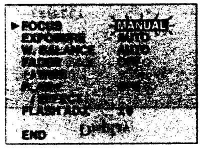
- *If the lens is smeared or blurred, accurate focusing is not possible. Keep the lens clean, wiping with a piece of soft cloth if it gets dirty. When condensation occurs, wipe with a soft cloth or wait for it to dry naturally.*
- *When shooting a subject close to the lens, zoom-out first (☞ pg. 18). If zoomed-in in the auto focus mode, the camcorder could automatically zoom out depending on the distance between the camcorder and the subject. When "TELE MACRO" (☞ pg. 30) is activated, the camcorder will not zoom out automatically.*



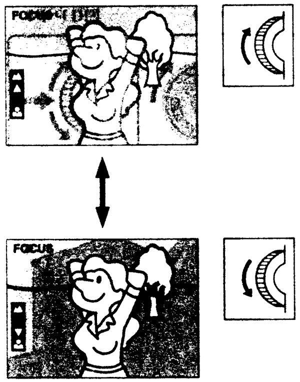
Select Dial

Power Switch

Display



Manual Mode Item Menu



MANUAL FOCUS

NOTE:

You should already have made the necessary viewfinder adjustments (☞ pg. 11). If you have not, do so before continuing.

1 SELECT OPERATION MODE

Set the Power Switch to " M " or " PS " while pressing down the Lock Button located on the switch, and pull out the viewfinder fully or open the LCD monitor fully.

2 ACCESS MANUAL MODE ITEM MENU

Press the Select Dial. The Manual Mode Item Menu appears.

3 ACCESS MANUAL FOCUS

Move the highlight bar to "FOCUS" by rotating the Select Dial, then press it. Rotate the Select Dial to display "MANUAL", then press it. The Manual Mode Item Menu disappears and "FOCUS" is displayed in the upper left corner. The focus is locked at this point.

4 ADJUST FOCUS

To farther subject . . .

.... rotate the Select Dial upward. " ▲ " appears and blinks. Go to step **5**.

To nearer subject . . .

.... rotate the Select Dial downward. " ▼ " appears and blinks. Go to step **5**.

5 END ADJUSTMENT OF FOCUS

Press the Select Dial. Focus adjustment is complete. The indication changes from "FOCUS" to "MANUAL".

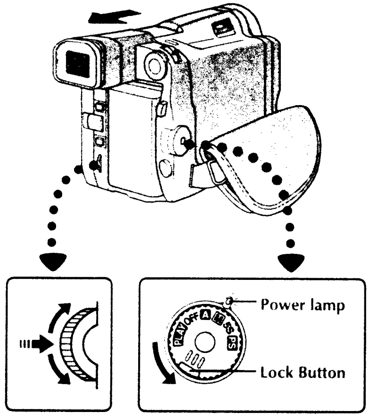
- If you want to reset the focus, repeat from step **2**.

To Change To Auto Focus . . .

.... rotate the Select Dial to display "AUTO" then press it in step **3**. The manual focus indicators disappear. Or set the Power Switch to " A ".

NOTES:

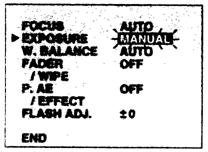
- *After the Power Switch is set to "OFF", Manual Focus is reset to "AUTO".*
- *Be sure to focus the lens in the maximum telephoto position when you use the Manual Focus mode. If you focus in on a certain subject in the wide-angle position, sharply focused images cannot be obtained when zoomed up because the depth-of-field is reduced at longer focal lengths.*
- *When the focus level cannot be adjusted any farther or closer, " ▲ " or " ▲ " will blink.*

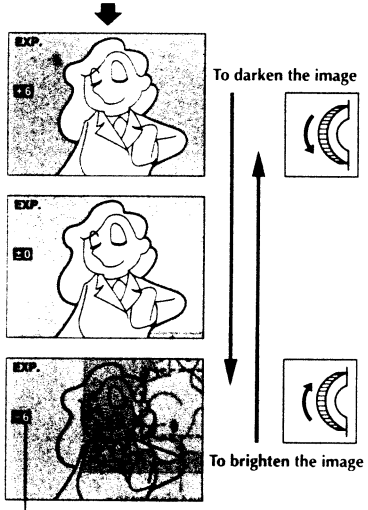


Select Dial

Power Switch

Display





Exposure control indicator

Exposure Control

This feature automatically adjusts the iris for the best available picture quality, but you can override and make the adjustment manually.

1 SELECT OPERATION MODE

Set the Power Switch to "M" or "PS" while pressing down the Lock Button located on the switch, and pull out the viewfinder fully or open the LCD monitor fully.

2 ACCESS MANUAL MODE ITEM MENU

Press the Select Dial. The Manual Mode Item Menu appears.

3 ACCESS EXPOSURE CONTROL

Move the highlight bar to "EXPOSURE" by rotating the Select Dial, then press it. Rotate the Select Dial to display "MANUAL", then press it. The Manual Mode Item Menu disappears. "EXP." and the highlight bar on the exposure control indicator are displayed.

4 ADJUST EXPOSURE

To brighten the image . . .

.... rotate the Select Dial upward. The exposure control indicator increases (maximum +6).
Go to step **5**.

To darken the image . . .

.... rotate the Select Dial downward. The exposure control indicator decreases (maximum –6).
Go to step **5**.

5 END ADJUSTMENT OF EXPOSURE

Press the Select Dial. Exposure adjustment is complete. The indication "EXP." changes to "MANUAL" and the highlight bar on the exposure control indicator goes out.

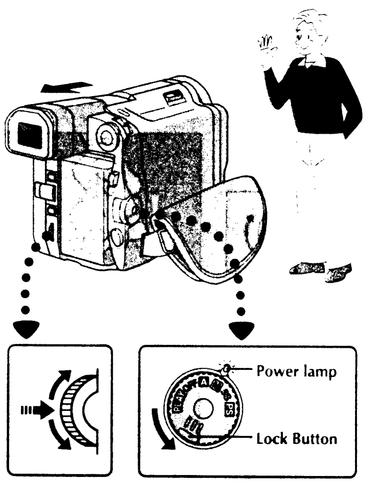
- If you want to reset the exposure, repeat step **2**.

To Return To Automatic Exposure Control . . .

.... rotate the Select Dial to display "AUTO" then press it in step **3**. The exposure control indicator disappears. Or set the Power Switch to "A".

NOTES:

- *After the Power Switch is set to "OFF", Exposure Control is reset to "AUTO".*
- *Manual exposure adjustment is recommended in the following situations:*
  - *When shooting using reverse lighting or when the background is too bright.*
  - *When shooting on a reflective natural background such as at the beach or when skiing.*
  - *When the background is overly dark or the subject light.*

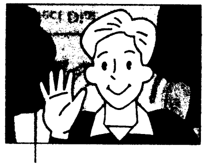


Select Dial

Power Switch

Display

END
Manual Mode Item Menu



Iris lock indicator

Iris Lock

Use this function when shooting a moving subject, when zooming, when the subject changes its distance (thus its size in the LCD monitor or the viewfinder), or when you want to lock the brightness level.

When the subject is close, keep the iris locked. Even when the subject moves away from you the image will not darken or brighten.

1 SELECT OPERATION MODE

Set the Power Switch to "M" or "PS" while pressing down the Lock Button located on the switch, and pull out the viewfinder fully or open the LCD monitor fully.

2 ACCESS MANUAL MODE ITEM MENU

Press the Select Dial. The Manual Mode Item Menu appears.

3 ACCESS EXPOSURE CONTROL

Move the highlight bar to "EXPOSURE" by rotating the Select Dial and then press it. Rotate the Select Dial to display "MANUAL", then press it. "EXP." is displayed.

4 CENTER SUBJECT, LOCK IRIS

Adjust zoom so that the subject fills the LCD monitor or the viewfinder, then press and hold the Select Dial for over 2 seconds. The exposure control indicator and "L" appear, indicating that the iris is locked. Press the Select Dial. The indication displayed in the upper left corner changes from "EXP." to "MANUAL".

To Return To Automatic Iris Control . . .

.... rotate the Select Dial to display "AUTO" then press it in step **3**. The exposure control indicator and "L" disappear. Or set the Power Switch to "A".

NOTE:

Iris lock is recommended in the following situations:

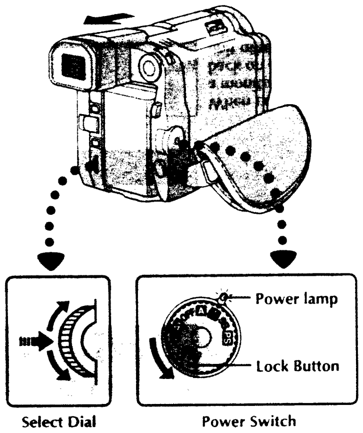
- *When shooting on a reflective natural background such as at the beach or when skiing.*
- *When shooting objects under a spotlight.*
- *When the subject is backing away.*
- *When zooming.*

To Lock The Exposure Control And The Iris . . .

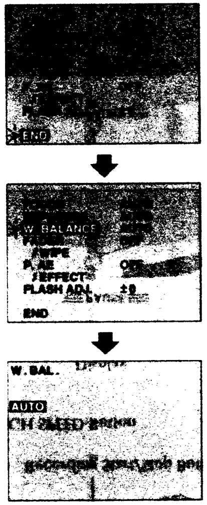
.... after step **3**, adjust the exposure rotating the Select Dial. Then lock the iris in step **4**. For automatic locking, rotate the Select Dial to display "AUTO", then press it in step **3**. The iris becomes automatic after about 2 seconds.

Iris

Works like the pupil of the human eye. In a well-lit environment, the human pupil contracts to keep too much light from entering. In low lighting, the pupil dilates to allow more light in.



Display



White Balance Adjustment

A term that refers to the correctness of colour reproduction under various lighting. If the white balance is correct, all other colours will be accurately reproduced.
The white balance is usually adjusted automatically. However, the more advanced camcorder operator would prefer to control this function manually and achieve a more professional colour/tint reproduction.

1 SELECT OPERATION MODE

Set the Power Switch to " M " or " PS " while pressing down the Lock Button located on the switch, and pull out the viewfinder fully or open the LCD monitor fully.

2 ACCESS MANUAL MODE ITEM MENU

Press the Select Dial. The Manual Mode Item Menu appears.

3 ACCESS WHITE BALANCE ADJUSTMENT

Move the highlight bar to "W.BALANCE" by rotating the Select Dial. Then press it. The Manual Mode Item Menu disappears. "W.BAL." appears in the upper left corner and the currently selected mode indication is also displayed.

4 SET FUNCTION PARAMETERS

Cycle through the available settings of the selected functions by rotating the Select Dial, and stop when the one you want is displayed.

"AUTO" – The white balance is adjusted automatically. This is the factory preset position.
" ⊠ " – When shooting with the white balance already having been set on the subject (☞ pg. 41).
" ☀ " – When shooting outdoors on a sunny day.
" ⛅ " – When shooting outdoors on a cloudy day.
" ✹ " – When using a video light or other similar type of lighting.

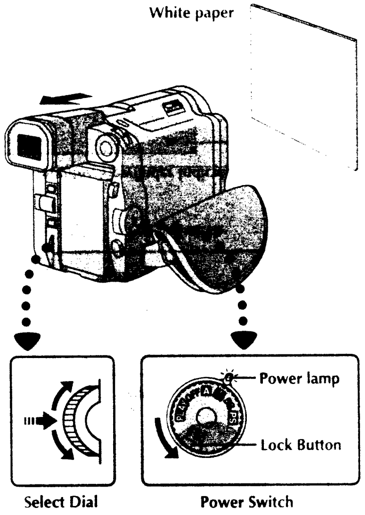
5 CLOSE WHITE BALANCE ADJUSTMENT

Press the Select Dial again. Selection is complete. The indication "W. BAL." changes to "MANUAL".

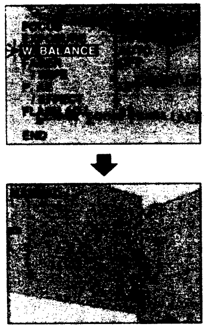
To Return To Automatic White Balance . . .
.... select "AUTO" in step **4**. Or set the Power Switch to " A ".

NOTE:

White balance cannot be used when Sepia or Monotone (☞ pg. 35) is activated.



Display



Manual White Balance Operation

If the camera is operating in Manual mode " M " or " PS ", perform a Manual White Balance when shooting under various types of lighting.

1 SELECT OPERATION MODE

Follow steps **1** through **4** of the white balance adjustment (☞ pg. 40), select " ⊠ MAN.".

2 SET MANUAL WHITE BALANCE

Hold a sheet of plain white paper in front of the subject. Adjust zoom or position yourself so that the white paper fills the screen.

3 ENTER SETTING

Press the Select Dial until the ⊠ begins blinking.

- When the setting is completed, the ⊠ stops blinking.

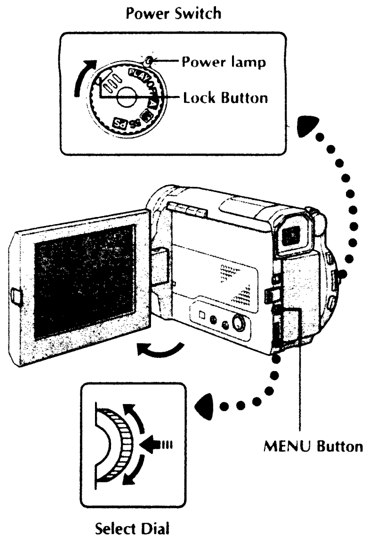
4 EXIT MANUAL WHITE BALANCE ADJUSTMENT

Press the Select Dial. The indication "W.BAL." changes to "MANUAL" and only the Manual White Balance indicator ⊠ is displayed.

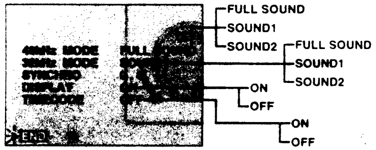
To Change The Tint For Recording . . .
.... in step **2**, substitute colored paper for white. The white balance is adjusted based on the colour, changing the tint. Red paper — deeper green; blue paper — orange; yellow paper — deeper purple.

NOTES:

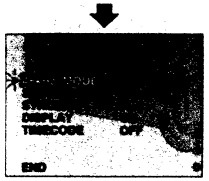
- *In step 2, it may be difficult to focus on the white paper in some circumstances. In such a case, adjust focus manually (☞ pg. 37).*
- *A subject can be shot under various types of lighting conditions indoors (natural, flourescent, candlelight, etc.). Because the colour temperature is different depending on the light source, the tint of the subject will differ depending on the white balance settings. Use this function for a more natural result.*
- *Once you adjust white balance during Manual White Balance operation, the setting is retained even if the power is turned off or the battery removed.*



Display



Playback Menu



Playback Menu

The Playback Menu allows you to set the following functions:
Playback Sound (32 kHz, 48 kHz), Synchro Comp, Display and Time Code. The following procedure applies to all except *Synchro Comp* (☞ *pg. 62, 63*).

1 SELECT OPERATION MODE

Set the Power Switch to "**PLAY**" while pressing down the Lock Button located on the switch, and pull out the viewfinder fully or open the LCD monitor fully.

2 ACCESS PLAYBACK MENU

Press **MENU**. The Playback Menu appears.

3 SELECT FUNCTION

Move the highlight bar to the desired function by rotating the Select Dial. Press the Select Dial to activate.

4 SET FUNCTION PARAMETERS

Rotate the Select Dial to cycle through the available settings for the selected function, and stop when the desired setting appears. Then press the Select Dial, and the highlight bar automatically moves to "END".

- To set parameters for other functions, repeat steps **3** and **4**.

5 CLOSE MENU

Press the Select Dial again, and the menu disappears.

Playback Sound

During playback, the camcorder detects the sound mode in which the recording was made, and plays the sound back. Select the type of sound to accompany your playback picture. (32 kHz is preset to "SOUND 1" and 48 kHz is preset to "FULL SOUND".)

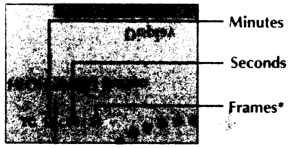
Recording sound	Display	Output sound
32 kHz	FULL SOUND	Stereo sound
	SOUND 1	
	SOUND 2	
48 kHz	FULL SOUND	Stereo sound
	SOUND 1	"L" sound is output on both channels
	SOUND 2	"R" sound is output on both channels

When watching a tape recorded at 32 kHz, if you want to change the output sound, access the Playback Menu and, in **step 3 on page 46, select** "32kHz MODE" and set it for "FULL SOUND", "SOUND 1" or "SOUND 2". When playing back a tape recorded at 48kHz, set in the same manner.

NOTES:

- *You can also use the provided RM-V711U remote control's* ***AUDIO MONITOR*** *button to change the output sound (without having to access the Playback Menu). Make sure you point the remote control at the camcorder's remote sensor.*
- *During playback, the camcorder detects the sound mode in which the recording was made. This detection cannot be made during fast-forward or rewind. During playback the sound mode is displayed in the upper left corner.*

Display



*25 frames = 1 second

TIME CODE

(Displaying The Time Code During Playback)

You can display the Time Code on screen during playback. This is especially useful for editing. This function is preset to "OFF". To turn it on, select "TIME CODE" at the Playback Menu and change the setting (☞ pg. 46).

ON– The Time Code is displayed on the playback screen.

OFF– The Time Code does not appear.

DISPLAY

(Displaying the Date During Playback)

If the time has been set, the date is automatically recorded separately from the recorded video signal. You can display or remove the date anytime during playback. This function is preset to "ON". To turn it off, select "DISPLAY" at the Playback Menu and change the setting (☞ pg. 46).

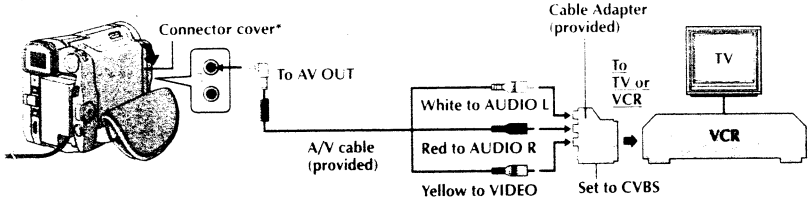
ON– The date is displayed on the playback screen.

OFF– The date is not displayed.

These are some basic types of connections. When making the connections, refer also to your VCR and TV instruction manuals.

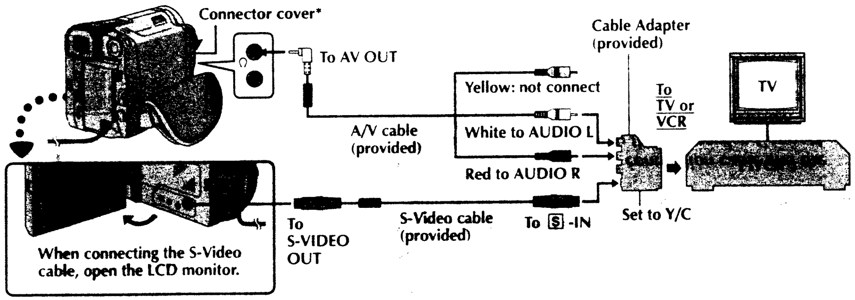
A. Connection to a TV or VCR equipped with a SCART connector compatible only with regular video signal

Use the provided Audio/Video (A/V) cable.


Connector cover*
To AV OUT
Cable Adapter (provided)
To TV or VCR
TV
White to AUDIO L
Red to AUDIO R
Yellow to VIDEO
A/V cable (provided)
VCR
Set to CVBS

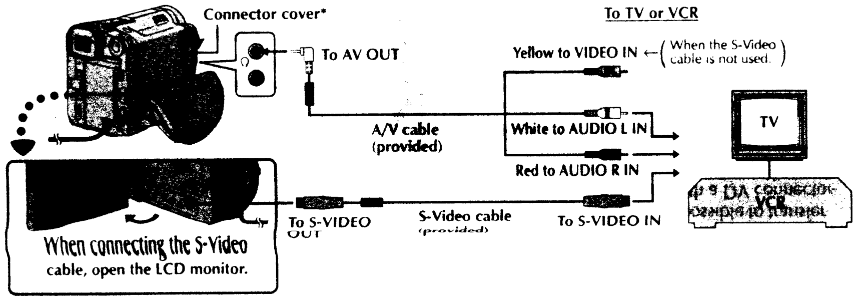
B. Connection to a TV or VCR equipped with a SCART connector compatible with Y/C signal

Use the provided Audio/Video (A/V) cable and S-Video cable.


Connector cover*
To AV OUT
Cable Adapter (provided)
Yellow: not connect
White to AUDIO L
Red to AUDIO R
A/V cable (provided)
To TV or VCR
TV
To S-VIDEO OUT
S-Video cable (provided)
To S -IN
Set to Y/C
When connecting the S-Video cable, open the LCD monitor.

C. Connection to a TV or VCR equipped with an S-VIDEO IN and/or A/V input (RCA type) connectors

Use the provided Audio/Video (A/V) cable and S-Video cable.


Connector cover*
To AV OUT
To TV or VCR
Yellow to VIDEO IN
(When the S-Video cable is not used.)
White to AUDIO L IN
Red to AUDIO R IN
A/V cable (provided)
TV
VCR
To S-VIDEO OUT
S-Video cable (provided)
To S-VIDEO IN
When connecting the S-Video cable, open the LCD monitor.

* When connecting the cables, open this cover.

1 CONFIRM POWER-OFF STATUS

Make sure the camcorder's power is off.

2 CONNECT CAMCORDER TO TV OR VCR

Pull out the connector cover and open it.
Connect as shown in the illustration (☞ pg. 48).

If Using A VCR . . . go to step 3.
If not . . . go to step 4.

3 CONNECT VCR OUTPUT TO TV INPUT

Refer to your VCR's instruction manual.

4 SUPPLY POWER

Turn on the camcorder, the VCR and the TV.

5 SELECT MODE

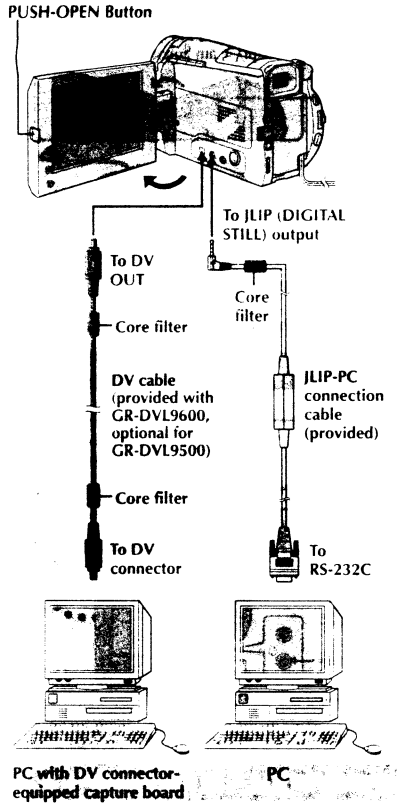
Set the VCR to its AUX input mode, and set the TV to its VIDEO mode.

To choose whether or not the following displays appear on the connected TV . . .

- Date/Time, Time Code
  .... set to "ON" or "OFF" in the Playback Menu (☞ pg. 46).
- Playback Sound Mode Display
  .... set the Power Switch to the camera position ("M", "5S" or "PS") and press **MENU**. Set "ON SCREEN" in the Date/Time Menu (☞ pg. 8) to "ON" or "OFF". Then set the Power Switch back to "PLAY".

NOTES:

- ***It is recommended to use the AC Power Adapter/ Charger as the power supply instead of the battery pack.* (☞ pg. 7)**
- *Never connect any other Audio/Video cable than the provided Audio/Video cable to the camcorder's AV OUT connector.*
- *When using the provided cables, make sure you connect the end of the cable with the core filter to the camcorder. The core filter reduces interference.*
- *To monitor the picture and sound from the camcorder without inserting a tape, set the camcorder's Power Switch to the camera position ("A", "M", "5S" or "PS"), then set your TV to the appropriate input mode.*
- *Make sure you adjust the TV sound volume to its minimum level to avoid a sudden burst of sound when the camcorder is turned on.*
- *If you have a TV or speakers that are not specially shielded, do not place the speakers adjacent to the TV as interference will occur in the camcorder playback picture.*
- *To keep the camcorder's display from appearing on the TV screen during playback, press **IND. ON/ OFF** for longer than 1 second (☞ pg. 15).*
- *While the Audio/Video cable is connected to the AV OUT connector, sound cannot be heard from the speaker.*
- *Set the video out select switch of the cable adapter as required:*
  Y/C: When connecting to a TV or VCR which accepts Y/C signals and uses an S-Video cable.
  CVBS: When connecting to a TV or VCR which does not accept Y/C signals and uses an audio/ video cable.


PUSH-OPEN Button
To JLIP (DIGITAL STILL) output
To DV OUT
Core filter
Core filter
DV cable (provided with GR-DVL9600, optional for GR-DVL9500)
JLIP-PC connection cable (provided)
Core filter
To DV connector
To RS-232C
PC with DV connector-equipped capture board
PC

Connection To A Personal Computer

This camcorder can transfer still images to a personal computer by using the provided software when connected as shown in the illustration. It is also possible to transfer still images to a personal computer with a DV connector-equipped capture board installed.

1 CONFIRM POWER-OFF STATUS

Make sure the camcorder and PC are turned off.

2 CONNECT CAMCORDER TO PC

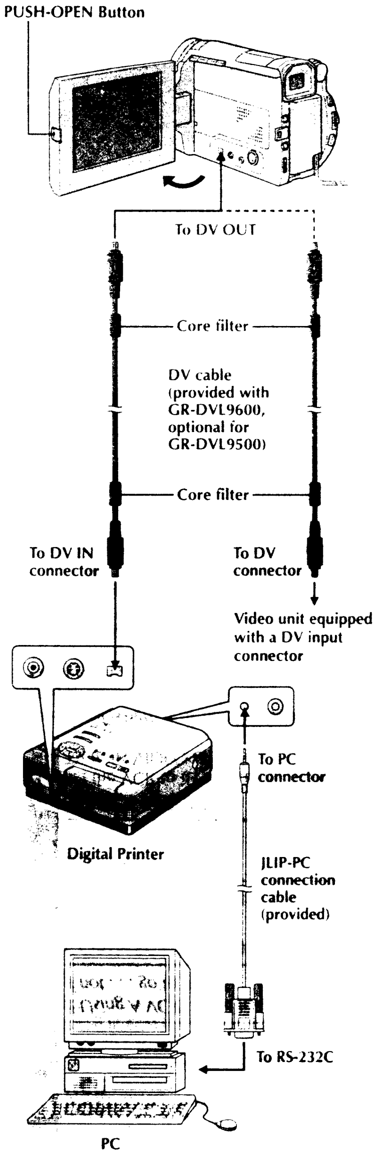
Press **PUSH-OPEN** and open the LCD monitor fully. Connect the camcorder to a PC using the cable according to your PC type as shown in the illustration.

3 TURN ON POWER

Turn the camcorder's Power Switch to "PLAY" while pressing down the Lock Button located on the switch and turn on the PC.

NOTES:

- ***It is recommended to use the AC Power Adapter/ Charger as the power supply instead of the battery pack (☞ pg. 7).***
- ***Never connect the JLIP-PC connection cable and the DV cable simultaneously to the camcorder. Connect only the cable you wish to use to the camcorder.***
- *The date/time information cannot be captured into PC.*
- *Also refer to the instruction manuals of the provided Software and the DV connector-equipped capture board.*
- *Be sure to use a DV cable with the core filter. The core filter reduces interference.*
- *Be sure to wind the DV cable twice around the core filter attached to the end connected to the camcorder.*


PUSH-OPEN Button
To DV OUT
Core filter
DV cable (provided with GR-DVL9600, optional for GR-DVL9500)
Core filter
To DV IN connector
To DV connector
Video unit equipped with a DV input connector
To PC connector
Digital Printer
JLIP-PC connection cable (provided)
To RS-232C
PC

Connection To A Video Unit Equipped With A DV Connector

Connection to the Digital Printer GV-DT3 (optional) allows you to print out the images or to transfer the captured image from the Digital Printer to a personal computer. It is also possible to copy recorded scenes from the camcorder onto another video unit equipped with a DV connector. This function is called Digital Dubbing (☞ pg. 53), which offers virtually no image or sound deterioration.

1 CONFIRM POWER-OFF STATUS

Make sure all the units are turned off.

2 CONNECT CAMCORDER TO PRINTER OR VIDEO UNIT EQUIPPED WITH DV INPUT CONNECTOR

Press **PUSH-OPEN** and open the LCD monitor fully. Make connections to the device you want to connect to using the DV cable, as shown in the illustration.

3 CONNECT PRINTER TO PC (IF NECESSARY)

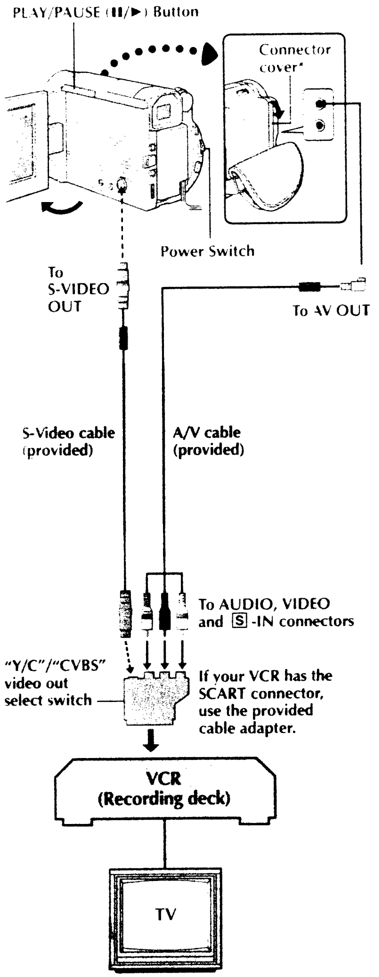
Connect the JLIP-PC connection cable (provided) to the printer's PC connector and the PC's RS-232C connector.

4 TURN ON POWER

Turn the camcorder's Power Switch to "PLAY", "A" or "M" while pressing down the Lock Button located on the switch and turn on the other units.

NOTES:

- ***It is recommended to use the AC Power Adapter/ Charger as the power supply instead of the battery pack. (☞ pg. 7)***
- *For Digital Dubbing, the GR-DVL9600 or GR-DVL9500 can be connected only to one device at a time. The GR-DVL9600 can also be used as a recorder.*
  When using the GR-DVL9500 for dubbing, be sure to use it as a player. The GR-DVL9500's DV connector is only for output.
- *Also refer to the instruction manuals of the connected units.*
- *Be sure to use a DV cable with the core filter.*
- *Be sure to wind the DV cable twice around the core filter attached to the end connected to the camcorder.*



* When connecting the cables, open this cover.

Tape Dubbing

1 CONNECT EQUIPMENT

Following the illustration at left, connect the camcorder and the VCR. Also refer to pg. 48 and 49.

2 PREPARE FOR DUBBING

Set the camcorder's Power Switch to " PLAY ", turn on the VCR's power, and insert the appropriate cassettes in the camcorder and the VCR.

3 SELECT VCR MODE

Engage the VCR's AUX and Record-Pause modes.

4 FIND EDIT-IN POINT

Engage the camcorder's Play mode to find a spot just before the edit-in point. Once it is reached, press **PLAY/PAUSE (II/►)** on the camcorder.

5 START EDITING

Press **PLAY/PAUSE (II/►)** on the camcorder and engage the VCR's Record mode.

6 STOP EDITING TEMPORARILY

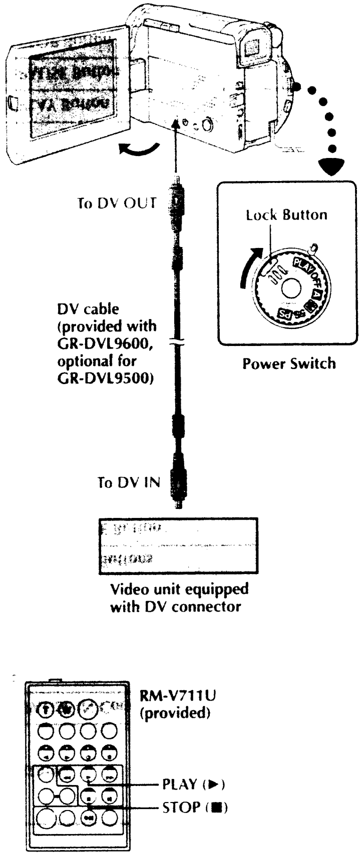
Engage the VCR's Record-Pause mode and press **PLAY/PAUSE (II/►)** on the camcorder.

7 EDIT MORE SEGMENTS

Repeat steps **4** through **6** for additional editing, then stop the VCR and camcorder when finished.

NOTES:

- *You can use Playback Zoom (☞ pg. 56) or Playback Special Effects (☞ pg. 57) in step 5.*
- *Before you start dubbing, make sure that the indications do not appear on the connected TV. If they do appear during dubbing, they are being recorded onto the new tape.*
  *To clear the Playback Sound Mode Display, press **DISPLAY** on the RM-V711U remote control (provided).*
- *Select "DISPLAY" and "TIME CODE" from the Playback Menu (☞ pg. 46) to show or hide the Date/Time and the Time Code on the recording.*
- *To show or hide all indications, press **IND. ON/OFF** on the camcorder for longer than 1 second (☞ pg. 15).*
- *Set the video out select switch of the cable adapter as required:*
  Y/C: When connecting to a TV or VCR which accepts Y/C signals and uses an S-Video cable.
  CVBS: When connecting to a TV or VCR which does not accept Y/C signals and uses an audio/video cable.


To DV OUT
Lock Button
Power Switch
DV cable (provided with GR-DVL9600, optional for GR-DVL9500)
To DV IN
Video unit equipped with DV connector
RM-V711U (provided)
PLAY (►)
STOP (■)

Digital Dubbing

It is also possible to copy recorded scenes from the camcorder onto other video unit equipped with a DV connector. Since a digital signal is sent, there is little if any image or sound deterioration.

1 CONFIRM POWER-OFF STATUS

Make sure the camcorder's power is off.

2 MAKE CONNECTIONS

Connect the camcorder to your video unit equipped with a DV connector using the DV cable as shown in the illustration.

3 START PLAYBACK

Press **PLAY (►)** to play back the source tape.

4 START RECORDING

While watching the playback on the monitor, engage the DV connector-equipped video unit's record mode from the spot on the source tape you want to begin recording.

NOTES:

- ***It is recommended to use the AC Power Adapter/ Charger as the power supply instead of the battery pack (☞ pg. 7).***
- *For Digital Dubbing, the GR-DVL9600 or GR-DVL9500 can be connected only to one device at a time. The GR-DVL9600 can also be used as a recorder. When using the GR-DVL9500 for dubbing, be sure to use it as a player. The GR-DVL9500's DV connector is only for output.*
- *If a blank portion is played back during dubbing, an unusual image may be dubbed.*
- *Even though the DV cable is connected correctly, sometimes the image may not appear in step **3**. If the above occurs, turn off power and make connections again.*
- *If "Playback Zoom" (☞ pg. 56), "Playback Special Effects" (☞ pg. 57) or "Snapshot" is attempted during playback, only the original playback image recorded on the tape is output from the DV OUT connector.*
- *During Digital Dubbing, the scenes recorded in High Speed Recording mode are divided into 2, and the image is displayed both in the upper and lower halves of the screen (☞ pg. 45).*
- *Be sure to use a DV cable with the core filter.*
- *Be sure to wind the DV cable twice around the core filter attached to the end connected to the camcorder.*

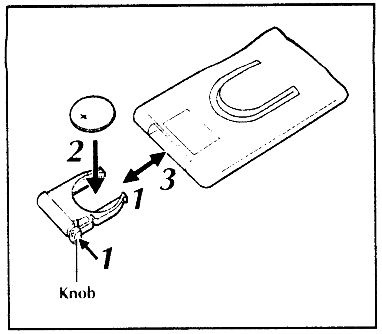
To Use This Camcorder As A Recorder (GR-DVL9600 only) . . .

1. Turn the Power Switch to " PLAY " while pressing down the Lock Button located on it.
2. Connect the DV cable as shown in the illustration and load a cassette to record on.
3. Press the Recording Start/Stop Button to engage the Record-Pause mode. "DV IN" appears on the screen.
4. Press the Recording Start/Stop Button to start recording. "DV IN" changes to " DV IN ".
5. Press the Recording Start/Stop Button again to engage the Record-Pause mode. " DV IN " returns to "DV IN"

NOTES:

- *During Digital Dubbing, the image is dubbed using the recording mode selected in the Recording Menu (☞ pg. 10).*
- *Digital Dubbing is performed in the sound mode recorded on the original tape, regardless of the current "SOUND MODE" setting (☞ pg. 30).*

USING THE REMOTE CONTROL UNIT



The Full-Function Remote Control Unit can operate this camcorder from a distance as well as the basic operations (Playback, Stop, Pause, Fast-Forward and Rewind) of your VCR. This remote control unit makes additional playback functions possible.

Installing The Battery

The remote control uses one lithium battery (CR2025).

1 PULL OUT BATTERY HOLDER

Pull out the battery holder while pressing the knob as shown.

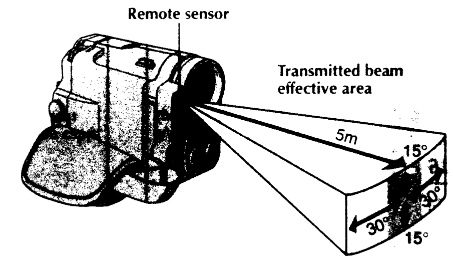
2 INSERT BATTERY IN HOLDER

Insert the battery in the holder, and be sure to have the "+" mark visible.

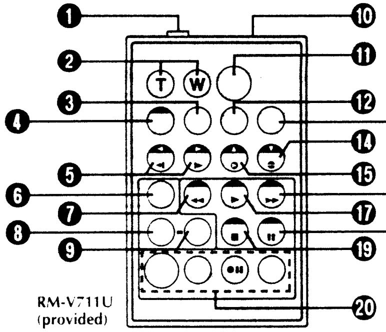
3 RE-INSERT HOLDER

Slide the holder back in until you hear a click.

- Read the caution concerning lithium batteries (☞ pg. 2).

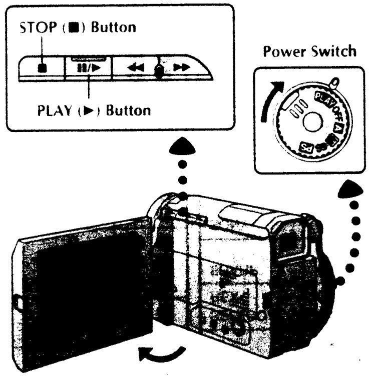


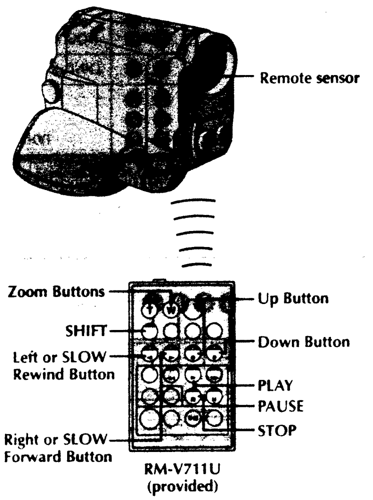
When using the remote control, be sure to point it at the remote sensor. The illustration shows the approximate transmitted beam effective area for indoor use.
The transmitted beam may not be effective or may cause incorrect operation outdoors or when the remote sensor is directly exposed to sunlight or powerful lighting.



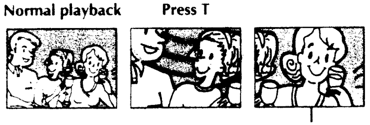
RM-V711U
(provided)

Buttons	Functions	
	With the camcorder's Power Switch set to the camera position ("A", "M", "5S" or "PS").	With the camcorder's Power Switch set to "PLAY".
❶ PAUSE IN Connector	—	☞ pg. 59
❷ Zoom (T/W) Buttons	Zoom in/out (☞ pg. 18)	Zoom in/out (☞ pg. 56)
❸ DISPLAY Button	—	☞ pg. 52
❹ SHIFT Button	—	☞ pg. 56
❺ SLOW Rewind/Forward Buttons **Left/Right Buttons**	— —	☞ pg. 56 ☞ pg. 56
❻ FADE/WIPE Button	—	☞ pg. 59
❼ REW Button	—	Rewind, Reverse Shuttle Search (☞ pg. 43, 44)
❽ EFFECT Button	—	☞ pg. 57
❾ EFFECT ON/OFF Button	—	☞ pg. 57
❿ Infrared beam transmitting window	Transmits the beam signal.	
⓫ START/STOP Button	Functions same as the Recording Start/Stop button on the camcorder.	
⓬ AUDIO MONITOR Button	—	☞ pg. 47
⓭ MBR SET Button	—	☞ pg. 58
⓮ Down Button **A. DUB Button**	— —	☞ pg. 56 ☞ pg. 64
⓯ Up Button **INSERT Button**	— —	☞ pg. 56 ☞ pg. 65
⓰ FF Button	—	Fast-Forward, Forward Shuttle Search (☞ pg. 43, 44)
⓱ PLAY Button	—	Playback start (☞ pg. 43)
⓲ PAUSE Button	—	Pause (☞ pg. 44)
⓳ STOP Button	—	Stop (☞ pg. 43)
⓴ R.A.EDIT Buttons	—	☞ pg. 58 - 63





RM-V711U
(provided)



Normal playback

Press T

To move image, press ⊖ (Right) while keeping SHIFT held down

FEATURE: Slow-Motion Playback

PURPOSE:

To allow slow-speed search in either direction.

OPERATION:

1) To change from normal to Slow-Motion Playback, press **PAUSE** (**II**) at the point where you want to start playback in slow motion.
2) Press **SLOW** (◄I or I►). After playing back for approx. 1 minute in Slow Rewind or approx. 2 minutes in Slow Forward, normal playback resumes.

■ To stop Slow-Motion Playback in progess, press **PLAY** (►).

NOTES:

- *During Slow-Motion Playback, due to digital image processing, the picture may take on a mosaic effect.*
- *After* ***SLOW*** *(◄I or I►) is pressed, the still image may be displayed for a few seconds, then the screen may become blue back for a few seconds. This is not a malfunction.*
- *There may be a small margin between the slow-motion playback start point you chose and the start point at which the camcorder actually begins playback in slow motion.*
- *During Slow-Motion Playback, there will be disturbances in video. This is not a malfunction.*
- *During Slow-Motion Playback, press* ***PAUSE*** *(****II****) to pause playback.*

FEATURE: Frame-By-Frame Playback

PURPOSE:

To allow frame-by-frame search.

OPERATION:

1) To change from normal to Frame-By-Frame Playback, press **PAUSE** (**II**) at the point where you want to start Frame-By-Frame Playback.
2) Press **PAUSE** (**II**) repeatedly. Each time it is pressed, the frame is played back.

FEATURE: Playback Zoom

PURPOSE:

To magnify the recorded image up to 10X at any time during playback.

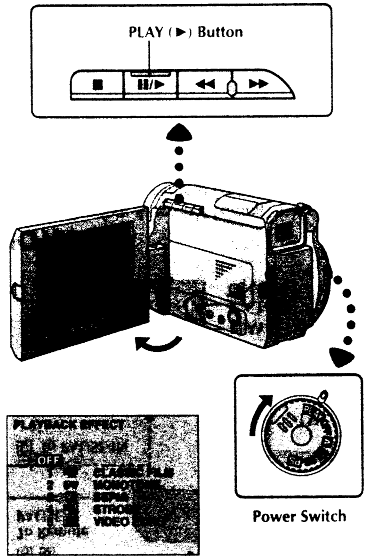
OPERATION:

1) Press **PLAY** (►) to find the scene of interest.
2) Press the Zoom Buttons (**T/W**) on the remote control. Make sure the remote control is pointed at the camcorder's remote sensor. Pressing **T** zooms in.
3) You can move the image on screen around to find a particular portion of the picture. While holding down **SHIFT**, press ⊖ (**Left**), ⊖ (**Right**), ⊖ (**Up**) and ⊖ (**Down**).

■ To end zoom, press and hold **W** until magnification returns to normal. Or, press **STOP** (■) and then press **PLAY** (►).

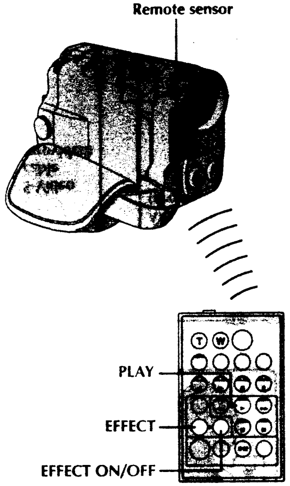
NOTES:

- *Zoom can also be used during slow-motion and still playback.*
- *During digital image processing, the quality of the image may suffer.*



PLAYBACK EFFECT
Select Menu

Power Switch



RM-V711U
(provided)

FEATURE: Playback Special Effects

PURPOSE:

To allow you to add creative effects to the playback image. You can use any one of the 5 effects.

OPERATION:

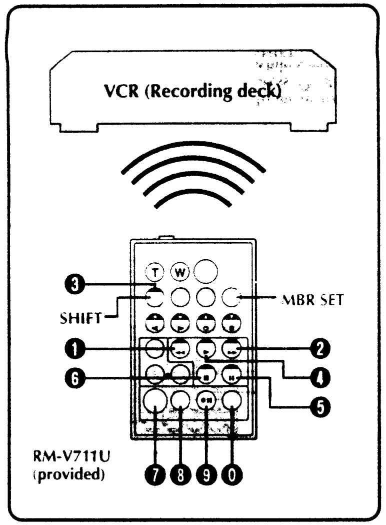
1) To start playback, press **PLAY** (►).
2) Point the remote control at the camcorder's remote sensor and press **EFFECT**. The PLAYBACK EFFECT Select Menu appears.
3) Move the highlight bar to the desired effect by pressing **EFFECT**. The selected function is activated and after 2 seconds the menu disappears.

■ To deactivate the selected effect, press **EFFECT ON/OFF** on the remote control. Pressing it again re-activates the selected effect.

■ To change the selected effect, repeat from step **2** of the above "OPERATION".

NOTES:

- *When Playback Special Effects are used, the Multi-Analyser 4 and Multi-Analyser 9 Snapshot modes (☞ pg. 25) are not available.*
- *For images recorded in High Speed Recording mode, "CLASSIC FILM", "STROBE" and "VIDEO ECHO" are disabled.*
- *The effects that can be used during playback are Classic Film, Monotone, Sepia, Strobe and Video Echo. The effects work the same in playback as they did in recording. Refer to page 35 for more information.*



VCR CODE LIST

VCR BRAND NAME	BUTTONS (A) (B)
AKAI	❻ ❷ ❻ ❹ ❼ ❼
BLAUPUNKT	❶ ❸
FERGUSON	❾ ❼ ❸ ❻ ❸ ❷
GRUNDIG	❶ ❹ ❸ ❹
HITACHI	❻ ❻ ❻ ❸
JVC A B C	❾ ❶ ❾ ❻ ❾ ❸
MITSUBISHI	❻ ❼ ❻ ❽
NEC	❸ ❼ ❸ ❽
PANASONIC	❶ ❸ ❶ ❼ ❶ ❶ ❾ ❹ ❶ ❽

VCR BRAND NAME	BUTTONS (A) (B)
PHILIPS	❶ ❾ ❾ ❺ ❶ ❶ ❾ ❹ ❾ ❶ ❾ ❻ ❶ ❷ ❸ ❸ ❼ ❷
SANYO	❸ ❻ ❸ ❺
SELECO, REX	❾ ❶ ❾ ❻
SHARP	❶ ❺ ❶ ⓿
SONY	❻ ❺ ❻ ⓿ ❸ ❾ ❸ ❶
THOMSON, TELEFUNKEN, SABA, NORDMENDE	❾ ❶ ❾ ❻ ❾ ❼ ❸ ❷
TOSHIBA	❻ ❾ ❻ ❶

Random Assemble Editing [R.A.Edit]

Create edited videos easily using your camcorder as the source player. You can select up to 8 "cuts" for automatic editing, in any order you like. R.A.Edit is more easily performed when the RM-V711U MBR (Multi-Brand Remote, ☞ pg. 54) is set to operate with your brand of VCR (see VCR CODE LIST), but can also be performed by operating the VCR manually.
Before operation, make sure the lithium battery is installed in the remote control RM-V711U (☞ pg. 54).

SET REMOTE/VCR CODE

1 SET REMOTE TO OPERATE VCR

Turn off the power to the VCR and point the remote towards the VCR's infrared sensor. Then, referring to the VCR CODE LIST on the left, press and hold **MBR SET**, and press button (A) and then (B).

- The code is automatically set once you release **MBR SET**, and the VCR's power comes on.

2 OPERATE VCR

Make sure the VCR's power is on. Then, while holding **SHIFT**, press the button on the remote for the desired function. The functions the remote can control are PLAY, STOP, PAUSE, FF, REW and VCR REC STBY (you do not need to press **SHIFT** for this one).

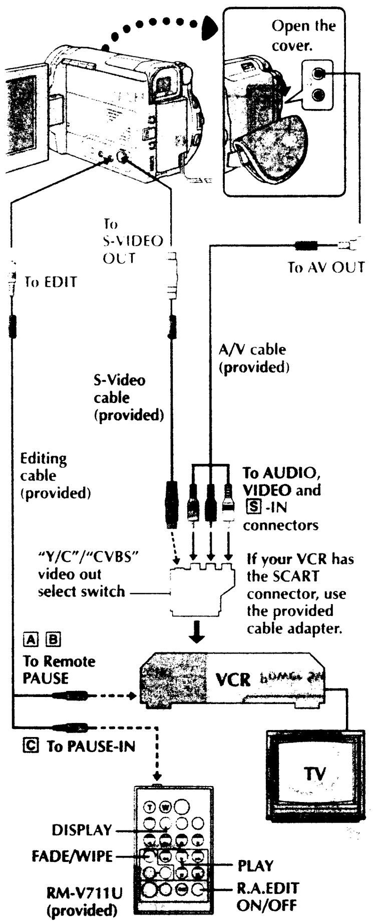
You are now ready to try Random Assemble Editing.

IMPORTANT

Although the MBR is compatible with JVC VCRs and those of many other makers, it may not work with yours or may offer limited functions.

NOTES:

- *If the VCR's power does not come on in step **1**, try another code from the VCR CODE LIST.*
- *Some brands of VCR do not come on automatically. In this case, turn the power on manually and try step 2.*
- *If the remote control is not able to control the VCR, use the controls on the VCR.*
- *When the remote control's battery runs out, the VCR brand you have set will be erased.*
  In that case, replace the old battery with a new one to reset the VCR brand.



MAKE CONNECTIONS

Also refer to pg. 48, 49 and 51.

1 CONNECT TO . . .

Ⓐ JVC VCR EQUIPPED WITH REMOTE PAUSE TERMINAL
Connect the editing cable to the Remote PAUSE terminal.

Ⓑ JVC VCR NOT EQUIPPED WITH REMOTE PAUSE TERMINAL BUT EQUIPPED WITH R.A. EDIT CONNECTOR
Connect the editing cable to the R.A.EDIT connector.

Ⓒ VCR OTHER THAN TYPE Ⓐ OR Ⓑ
Connect the editing cable to the RM-V711U's PAUSE-IN connector.

2 PREPARE CAMCORDER

Insert a recorded tape and set the Power Switch to "PLAY".

3 PREPARE VCR

Turn the power on, insert a recordable tape and engage the AUX mode (refer to VCR's instructions).

SELECT SCENES

4 START SOURCE PLAYBACK

First set the Power Switch to "PLAY" while pressing down the Lock Button located on it. Press **PLAY** (▶) and then press **R.A. EDIT ON/OFF** on the remote control. Make sure to point the remote control at the camcorder's remote sensor.

- The Random Assemble Editing Menu appears.

5 EXECUTE FADE/WIPE IN (IF NECESSARY)

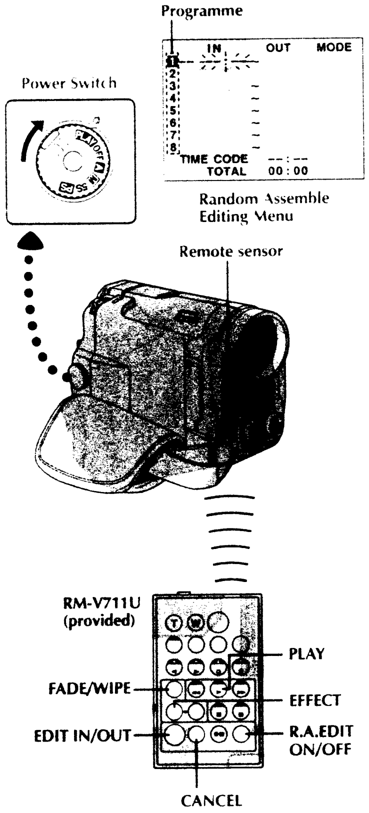
Press **FADE/WIPE** on the remote control.

- Cycle through the effects by pressing repeatedly, and stop when the one you want is displayed.
- You cannot use a Picture Wipe/Dissolve at the beginning of Programme 1.

NOTES:

- *Before Random Assemble Editing, make sure the indications do not appear on the TV monitor. If they appear during Random Assemble Editing, they will be recorded onto the new tape. To clear the Playback Sound Mode Display, press **DISPLAY** on the remote control. Select "DISPLAY" and "TIME CODE" from the Playback Menu (☞ pg. 46) to show or hide the Date/Time and the Time Code on the recording. To show or hide all indications except for the Random Assemble Editing Menu, press **IND. ON/OFF** on the camcorder for longer than 1 second. When Random Assemble Editing starts, its indications disappear and are not recorded on the new tape.*
- *When editing on a video unit equipped with DV input connector, the DV cable can be connected instead of the S-Video cable and Audio/Video cable.*
- *Set the video out select switch of the cable adapter as required:*
  Y/C: When connecting to a TV or VCR which accepts Y/C signals and uses an S-Video cable.
  CVBS: When connecting to a TV or VCR which does not accept Y/C signals and uses an audio/video cable.

CONTINUED ON NEXT PAGE



SELECT SCENES (cont.)

6 SET EDIT-IN POINT

At the beginning of the scene, press **EDIT IN/OUT** on the remote control. The Edit-In position appears on the Random Assemble Editing Menu.

7 SET EDIT-OUT POINT

At the end of the scene, press **EDIT IN/OUT**. The Edit-Out position appears on the Random Assemble Editing Menu.

8 USE FADE/WIPE ON SCENE TRANSITION (IF NECESSARY)

Press **FADE/WIPE**.

- Cycle through the effects by pressing repeatedly, and stop when the one you want is displayed.
- If you select a Fade/Wipe effect for an Edit-Out point, the effect is automatically applied to the following Edit-In point.
- You cannot use a Picture Wipe/Dissolve at the end of the last scene.
- When you use Fade/Wipe effects, that time is included in the total time (this does not apply to Picture Wipe/Dissolve).

9 USE PLAYBACK SPECIAL EFFECTS (IF NECESSARY, ☞ pg. 57)

Press **EFFECT**.

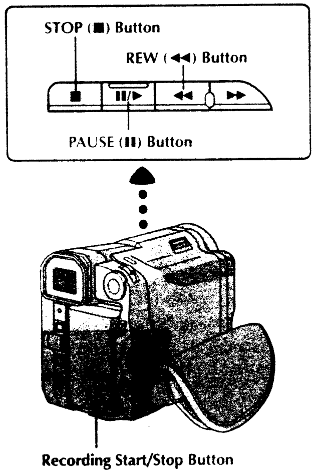
10 REGISTER ADDITIONAL SCENES

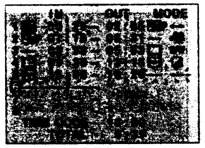
Repeat steps **6** through **9**.

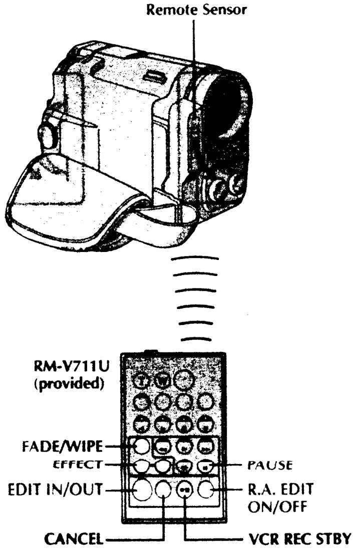
- To change previously registered points, press **CANCEL** on the remote control. The registered points disappear, one at a time, from the most recently registered point.
- If you are not using Fade/Wipe or Programme AE with special effects, repeat steps **6** and **7** only.

NOTES:

- *When the source tape has more than 2 identical time codes (☞ pg. 19), the camcorder may not find the Edit-In point you chose and a malfunction may occur.*
- *When choosing a scene, set Edit-In and Edit-Out points so that there is a relatively large difference between them.*
- *If the search time for an in-point exceeds 5 minutes, the recording deck's Record-Standby mode will be cancelled and editing will not take place.*
- *If there are blank portions before or after the Edit-In and Edit-Out points, a blue-backed screen may be included in the edited version.*
- *Since time codes register time only as accurately as seconds, the time code total time may not match the total programme time exactly.*
- *Turning off the camcorder's power erases all registered Edit-In and Edit-Out points.*
- *If you select Sepia or Monotone mode from Programme AE with special effects, you cannot use the Dissolve or Black & White Fader. In this case the Dissolve or Black & White indicator begins blinking. Once the next Edit-In point is registered, the effect is turned off. To combine these effects, use Sepia or Monotone during recording, then use Dissolve or Black & White Fader during Random Assemble Editing.*
- *It is not possible to use Fade/Wipe effects and Programme AE with special effects during Random Assemble Editing using a DV cable.*







AUTOMATIC EDITING TO VCR

11 PREPARE SOURCE TAPE

Rewind the tape in the camcorder to the beginning of the scene you want to edit and press **PAUSE** (**II**).

12 ENGAGE VCR'S RECORD-PAUSE MODE

Point the remote control towards the VCR's remote sensor and press **VCR REC STBY** (**●II**), or manually engage the VCR's Record-Pause mode.

13 START EDITING

Press the Recording Start/Stop Button on the camcorder. Editing proceeds as programmed, right through to the end of the last registered scene.

- Pressing **START/STOP** on the remote control does not start editing.
- When dubbing is complete, the camcorder enters the Pause mode, and the recording deck enters its Record-Standby mode.
- If you do not register an Edit-Out point, the tape will be dubbed all the way to the end automatically.

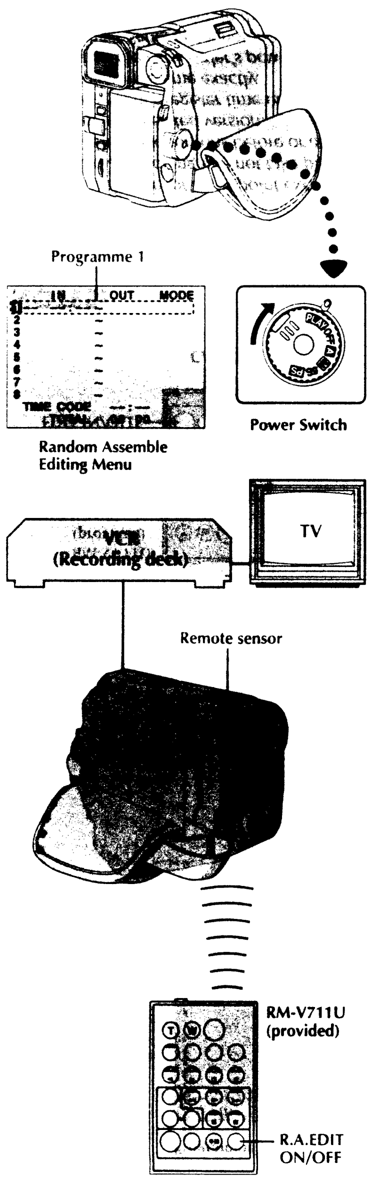
14 STOP EDITING

Engage the Stop modes for the camcorder and the VCR.

To make the R.A. Edit counter display disappear, press **R.A. EDIT ON/OFF** on the remote control.

NOTES:

- *Pressing **R.A. EDIT ON/OFF** on the remote control clears all settings registered during Random Assemble Editing.*
- *When the editing cable is connected to the Pause terminal during dubbing, make sure the remote control is pointed at the VCR's sensor, and that the path between the two is unobstructed.*
- *Random Assemble Editing may not function properly when using a tape including several duplicated Time Codes (☞ pg. 19).*


Programme 1
IN OUT MODE
TIME CODE
Random Assemble Editing Menu
Power Switch
TV
VCR (Recording deck)
Remote sensor
RM-V711U (provided)
R.A.EDIT ON/OFF

For More Accurate Editing

Some VCRs make the transition from Record-Standby to Record mode faster than others. Even if you begin editing for the camcorder and the VCR at exactly the same time, you may lose scenes you wanted, or find that you have recorded scenes you did not want. For a cleanly edited tape, confirm and adjust the timing of the camcorder against your VCR.

DIAGNOSING VCR'S AGAINST CAMCORDER TIMING

1 PREPARE FOR R.A. EDIT

Play back the tape in the camcorder, then point the remote control at the camcorder's remote sensor and press **R.A. EDIT ON/OFF**.

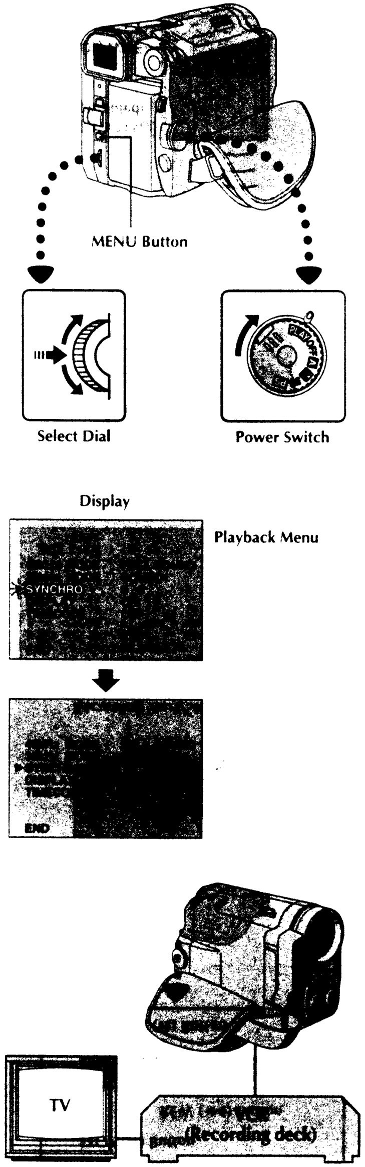
- "Random Assemble Editing Menu" appears.

2 CHOOSE A SCENE

Perform Random Assemble Editing on Programme 1 only. In order to check VCR and camcorder timing, select the beginning of a scene transition as your Edit-In point.

3 PLAY BACK DUBBED SCENE

- If any images from the scene prior to the transition you chose for your Edit-In point were recorded, that means your VCR moves quickly from Record-Pause to Record mode.
- If the scene you tried to dub starts in progress, the VCR is slow to start recording.


MENU Button
Select Dial
Power Switch
Display
Playback Menu
SYNCHRO
END
TV
VCR (Recording deck)

ADJUSTMENT OF VCR'S AGAINST CAMCORDER TIMING

4 ACCESS PLAYBACK MENU

Point the remote control at the camcorder's remote sensor and press **R.A. EDIT ON/OFF** to make the Random Assemble Editing menu disappear, then press **MENU**. The Playback Menu appears.

5 SELECT FUNCTION

Move the highlight bar to "SYNCHRO" by rotating the Select Dial, then press it. The value for "SYNCHRO" is highlighted.

6 INPUT CORRECTION DATA

Based on the diagnostics performed (☞ pg. 62), you can now increase the VCR's speed by rotating the Select Dial upward. You can also slow down the VCR's speed by rotating the Select Dial downward. The adjustment range is from –1.3 to +1.3 seconds, in 0.1-second increments.

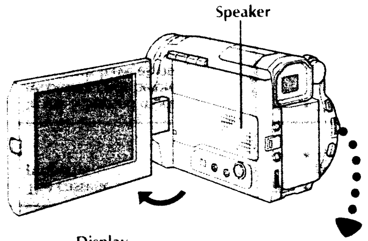
7 CLOSE MENU

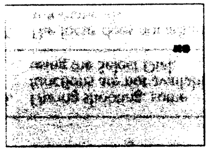
Press the Select Dial twice.

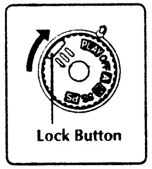
- Now perform Random Assemble Editing beginning with step **4** on page 59.

NOTES:

- *Before performing actual Random Assemble Editing, do a few Random Assemble Editing trial runs to check whether the value you have input is appropriate or not, and make adjustments accordingly.*
- *Depending on the recorder, there may be situations where the timing difference cannot be fully corrected.*

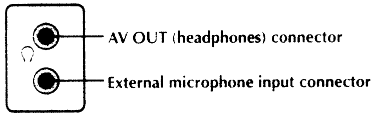


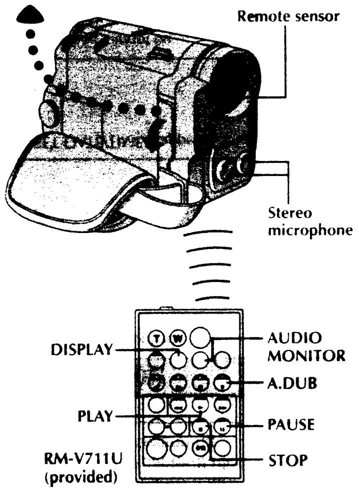

Audio Dub Standby mode



Power Switch

Located beneath the cover.


AV OUT (headphones) connector
External microphone input connector



RM-V711U (provided)

Audio Dubbing

The audio track can be customized only when recorded on the 32 kHz mode (☞ pg. 30).

NOTES:

- *Audio Dubbing is not possible on a tape recorded at 48 kHz, on a tape recorded in the LP mode or on a blank portion of a tape.*
- *To perform Audio Dubbing while watching in the television, make connections (☞ pg. 48).*

1 FIND EDIT-IN POINT

Play back the tape to locate the point where editing will start, then press **PAUSE** (**II**).

2 ENGAGE AUDIO DUB STANDBY

While holding **A. DUB** (⊜) on the remote control, press **PAUSE** (**II**). "**II**⊜" appears.

3 BEGIN DUBBING

Press **PLAY** (**▶**), then begin "narrating".

- Speak into the microphone.

4 PAUSE DURING DUBBING

Press **PAUSE** (**II**).

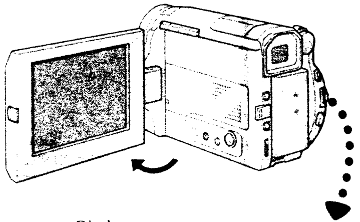
5 STOP DUBBING

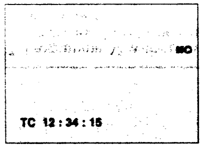
Press **STOP** (**■**).

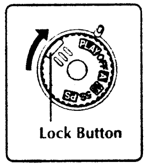
NOTES:

- *While an optional microphone is connected, the built-in microphone is disabled.*
- *When editing onto a tape that was recorded at 32 kHz, the old and new soundtracks are recorded separately.*
- *To select the desired sound for playback, press **AUDIO MONITOR** on the remote control.*
- *If you dub onto a blank space on the tape, the sound may be disrupted. Make sure you only edit recorded areas.*
- *If feedback or howling occurs during TV Playback, move the camcorder's microphone away from the TV, or turn down the TV's volume.*
- *Sound is not heard from the speaker during Audio Dubbing. To hear sound, connect optional headphones to the AV OUT (headphones) connector.*
- *If you change from 32 kHz to 48 kHz in mid-recording and then use the tape for Audio Dubbing, it is not effective from the point where 48 kHz recording began.*
- *During Audio Dubbing, when the tape moves to scenes recorded in the LP mode, scenes recorded at 48 kHz or a blank portion, Audio Dubbing stops and "ERROR! REFER MANUAL" appears.*

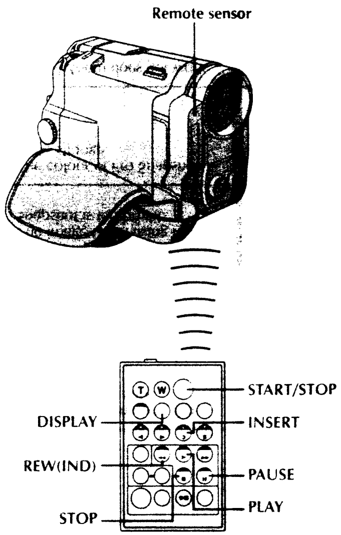
Recording sound	Display	Output sound
32 kHz	FULL SOUND	Original and new tracks are combined and output in stereo.
	SOUND 2	New track is output on both "L" and "R" channels in stereo.
	SOUND 1	Original track is output on both "L" and "R" channels in stereo.







Power Switch



RM-V711U (provided)

Insert Editing

You can record a new scene into a previously recorded tape, replacing a section of the original recording with minimal picture distortion at the in- and out-points. The original audio remains unchanged.

NOTES:

- *Insert Editing is not possible on a tape recorded in the LP mode or on a blank portion of a tape.*
- *To perform Insert Editing while watching in the television, make connections (☞ pg. 48).*

1 FIND EDIT OUT POINT

Playback the tape to locate the point where you want to stop editing. Confirm the time code at this point (☞ pg. 47).

2 FIND EDIT IN POINT

Press **REW** (**◀◀**) until the point is located, then press **PAUSE** (**II**).

3 PREPARE FOR INSERT EDITING

Press and hold **INSERT** (**O**) on the remote control, then press **PAUSE** (**II**). "**IIO**" and the Time Code (min.:sec.) appear and the camcorder enters Insert-Pause mode.

4 START RECORDING

Press **START/STOP** to begin editing.

- Confirm the insert at the time code you checked in step **1**.

5 PAUSE DURING EDITING

Press **START/STOP**. The camcorder re-enters Insert Pause mode. Press again to resume editing.

6 STOP EDITING

Press **STOP** (**■**) while the camcorder is in the Insert-Pause mode.

NOTES:

- *Programme AE with special effects (☞ pg. 34) can be used to spice up the scenes being edited during Insert Editing.*
- *To display the Time Code during Insert Editing, ☞ pg. 46.*
- *When performing Insert Editing, the tape's Video Area and Sub-Code Area (☞ pg. 4) are rewritten, so the date and time information changes.*
- *If you perform Insert Editing onto a blank space on the tape, the audio and video may be disrupted. Make sure you only edit recorded areas.*
- *During Insert Editing, when the tape moves to scenes recorded in the LP mode or a blank portion, Insert Edting stops and "ERROR! REFER MANUAL" appears.*

TROUBLESHOOTING

If, after following the steps in the chart below, the problem still exists, please consult your nearest JVC dealer.

The camcorder is a microcomputer-controlled device. External noise and interference (from a TV, a radio, etc.) might prevent it from functioning properly. In such cases, first disconnect its power supply unit (battery pack, AC Power Adapter/Battery Charger, etc.) and wait a few minutes; and then re-connect it and proceed as usual from the beginning.

SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
1. No power is supplied.	*1.* • The power is not connected properly. • The battery is dead. • The LCD monitor is not open fully or the viewfinder is not pulled out when recording.	*1.* • Connect the AC Power Adapter/Charger securely (☞ pg. 7). • Replace the dead battery with a fully charged one (☞ pg. 6, 7). • Open the LCD monitor fully or pull out the viewfinder. The LCD monitor turns on/off when it is opened/closed at approx. 90° while the Power Switch is set to any position except "OFF" if the viewfinder is not fully pulled out.
2. "SET DATE/TIME!" appears.	*2.* • The built-in clock's rechargeable lithium battery is discharged. • The previously set date/time is erased.	*2.* • Connect the camcorder to an AC outlet using the AC Power Adapter Charger for over 24 hours to charge the clock's lithium battery (☞ pg. 8).
3. Recording cannot be performed.	*3.* • The tape's erase protectoin swtich is set to "SAVE". • The Power Switch is set to " PLAY ". • "TAPE END" appears. • The cassette's cover is open.	*3.* • Set the tape's erase protection switch to "REC" (☞ pg. 9). • Set the Power Switch to any position except " PLAY " or "OFF" (☞ pg. 13). • Replace with new cassette (☞ pg. 9). • Close the cassette's cover.
4. There is no picture.	*4.* • The camcorder is not getting power, or some other malfunction exists.	*4.* • Turn the camcorder's power off and on again (☞ pg. 14).
5. Some functions are not available using **MENU**.	*5.* • The Power Switch is set to " A ".	*5.* • Set the Power Switch to any position except " A " (☞ pg. 13).
6. During shooting, some functions are not available using the Select Dial.	*6.* • The Power Switch is set to " A " or "5S".	*6.* • Set the Power Switch to " M " or " PS " (☞ pg. 13).
7. The focus does not adjust automatically.	*7.* • Focus is set to "MANUAL". • The recording was done in a dark place, or the contrast was low. • The lens is dirty or covered with condensation.	*7.* • Set Focus to "AUTO" (☞ pg. 37). • Clean the lens and check the focus again (☞ pg. 71).
8. The cassette will not load properly.	*8.* • The cassette is in the wrong position. • The battery's charge is low.	*8.* • Set it in the right position (☞ pg. 9). • Install a fully charged battery (☞ pg. 6, 7).
9. In the 5-Second mode, recording ends before 5 seconds have elapsed.	*9.* • The 5-Second mode in the System Menu is set to "ANIM.".	*9.* • Select "5S" or "5SD" in the System Menu (☞ pg. 30).
10. Pro Snapshot mode cannot be used.	*10.* • The Squeeze mode is selected. • High Speed Recording is being attempted.	*10.* • Disengage the Squeeze mode (☞ pg. 29). • Do not use High Speed Recording (☞ pg. 42).
11. Although Pro Snapshot is attempted, flash does not take place.	*11.* • The subject is too bright with the flash set to "AUTO". • If ϟ blinks, the flash is being charged.	*11.* • Set "FLASH" to "ON" in the Recording Menu (☞ pg. 26). • It can take up to 10 seconds to charge the flash.
12. Although Pro Snapshot is taken with the flash, Red-Eye Reduction does not take place.	*12.* • The subject does not look straight toward the flash. • The subject does not look at the first flash which is an important part of Red-Eye Reduction. • The camcorder is too far from the subject. • The flash is not in Red-Eye Reduction mode.	*12.* • The subject should look straight toward the flash, especially the first flash. If the subject does not see the first flash, it will be difficult for Red-Eye Reduction to take place (☞ pg. 26). • The flash is effective for subjects at a distance of approx. 0.7 m to 2 m from the camcorder (☞ pg. 26). • Press the Red-Eye Reduction Button (◉ ▶▶) to display the Red-Eye Reduction indicator (☞ pg. 26).
13. The image taken using Pro Snapshot is too dark.	*13.* • "FLASH" is set to "OFF" in the Recording Menu. • The flash emission window is covered by fingers, etc.. • The flash brightness is set to produce a darker image (adjustment value: –3). • The camcorder is too far from the subject.	*13.* • Set "FLASH" to "AUTO" or "ON" in the Recording Menu (☞ pg. 26). • Do not cover the flash emission window. • Adjust the flash brightness to a larger value (☞ pg. 27). • The flash is effective for subjects at a distance of approx. 0.7 m to 2 m (☞ pg. 26).
14. The image taken using Pro Snapshot is too bright.	*14.* • "FLASH" is set to "ON" in the Recording Menu.	*14.* • Set "FLASH" to any parameter other than "ON" in the Recording Menu (☞ pg. 26).
15. The colour of Pro Snapshot looks strange.	*15.* • The light source or the subject does not include white. Or there are various different light sources behind the subject.	*15.* • Set "FLASH" to "ON" in the Recording Menu. Or find a white subject and compose your shot so that it also appears in the frame (☞ pg. 26).
16. Digital Zoom does not work.	*16.* • 10X optical zoom is selected. • The Video Echo mode is activated. • Picture Wipe or Dissolve are being used in a scene transition. • 5-Second recording was done with the Power Switch set to "5S" and with "5SD" selected in the System Menu. • Pro Snapshot was attempted during Digital Zoom. • High Speed Recording is attempted.	*16.* • Turn off the Video Echo mode (☞ pg. 35). • Wait until the Picture Wipe or Dissolve effects are completed (☞ pg. 28). • Change the setting of either the System Menu or the Power Switch (☞ pg. 21). • Do not attempt to take a Pro Snapshot when performing Digital Zoom (☞ pg. 29). • Release High Speed Recording (☞ pg. 42).
17. Programme AE with special effects and Fade/Wipe Effects do not work.	*17.* • The Power Switch is set to " A " or "5S". • Some functions are disabled during High Speed Recording.	*17.* • Set the Power Switch to " M "or " PS " (☞ pg. 13). • ☞ pg. 42.
18. The Black & White Fader does not work.	*18.* • The Sepia or Monotone mode is activated.	*18.* • Turn off Sepia and Monotone (☞ pg. 34).
19. The Dissolve function does not work.	*19.* • The Sepia, Monotone or Slow Shutter mode of Programme AE with special effects is activated. • The Squeeze mode is selected. • The previously selected mode of Programme AE with special effects was changed after the last selected scene for editing was registered.	*19.* • Turn off Sepia, Monotone or Slow Shutter before adding Dissolve to a scene transition (☞ pg. 34). • Make sure that the Squeeze mode in the Recording Menu is set to "OFF" (☞ pg. 29). • Make sure you have selected the mode of Programme AE with special effects you want before starting editing (☞ pg. 34).

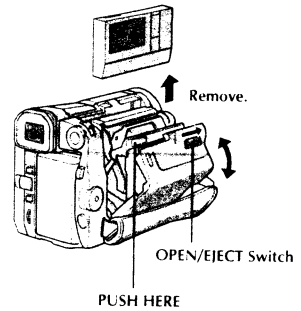
CONTINUED ON NEXT PAGE

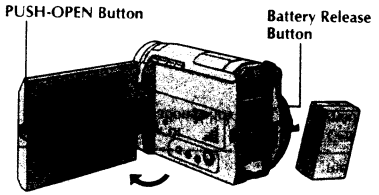
SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
20. The Picture Wipe and Dissolve functions do not work.	***20.*** • The last selected editing scene is ending. • At the end of the last selected scene for editing, the Power Switch was set to "OFF". • The power is off.	***20.*** • Select Picture Wipe or Dissolve before beginning recording. The effects are then automatically activated (☞ pg. 32). • Do not turn off the camcorder's power after setting Edit-In and Edit-Out points, as they will all be erased (☞ pg. 32). • The camcorder automatically shuts off after 5 minutes have elapsed in the Record-Standby mode. Make sure you continue operations within 5 minutes after engaging Record-Standby mode (☞ pg. 32).
21. The Picture Wipe function does not work.	***21.*** • The Slow Shutter mode is activated. • The Squeeze or Cinema mode is selected in the Recording Menu.	***21.*** • Make sure the Squeeze mode, Cinema mode, or Slow Shutter mode is not activated when preparing to use the Picture Wipe function (☞ pg. 29, 35).
22. Scene transition does not go as expected.	***22.*** • When using "Picture Wipe/Dissolve" (☞ pg. 32) or "Dissolve during 5 second mode recording" (☞ pg. 21), there is a delay of a fraction of a second between the previous record stop-point and the Dissolve start-point. This is normal, but this slight delay becomes especially noticeable when shooting fast-moving subject or during rapid panning.	***22.*** —
23. The Video Echo mode does not work.	***23.*** • The Picture Wipe or Dissolve functions are in use. • The Squeeze mode is selected in the Recording Menu. • A Fade-In or Fade-Out is in progress (White Fader, Black Fader or Black & White Fader). • Dissolve during 5-second mode recording is in use.	***23.*** • Make sure the Squeeze mode is set to "OFF" (☞ pg. 33). • Do not try to use the Video Echo mode during a Fade-In or Fade-Out or when Dissolve is activated during 5-second mode recording (☞ pg. 31).
24. Even when Slow Shutter is not selected, the image looks like it is activated.	***24.*** • When shooting in the dark, the unit becomes highly sensitive to light and the image takes on an effect similar to Slow Shutter.	***24.*** • If you want the lighting to look more natural, set GAIN UP to "AGC" or "OFF" in the Recording Menu (☞ pg. 29).
25. There is no strobe when the Classic Film or Strobe mode is activated.	***25.*** • The Picture Wipe or Dissolve function is in use. • Dissolve during 5-second mode recording is in use.	***25.*** • Do not try to use the Classic Film or Strobe mode during a scene transition (☞ pg. 21, 31, 32).
26. White Balance cannot be activated.	***26.*** • The Sepia or Monotone mode is activated.	***26.*** • Turn off Sepia or Monotone before setting White Balance (☞ pg. 34).
27. When shooting a subject illuminated by bright light, vertical lines appear.	***27.*** • This is a result of exceedingly high contrast, and is not a malfunction.	***27.*** —
28. When the screen is under direct sunlight during shooting, the screen becomes red or black for an instant.	***28.*** • This is not a malfunction.	***28.*** —
29. During recording, the date/time does not appear.	***29.*** • "DISPLAY" is set to "OFF" in the Date/Time Menu. • Interface shooting is performed.	***29.*** • Set "DISPLAY" to "ON" in the Date/Time Menu (☞ pg. 20). • During interface shooting, the date/time does not appear (☞ pg. 17). • Press **IND. ON/OFF** for longer than 1 second to make the indicators appear (☞ pg. 15).
30. The indicators and messages do not appear.	***30.*** • "ON SCREEN" is set to "OFF" in the Date/Time Menu. • You have made the indicators disappear.	***30.*** • Set "ON SCREEN" to "ON" in the Date/Time Menu (☞ pg. 20). • Press **IND. ON/OFF** for longer than 1 second to make the indicators appear (☞ pg. 15).
31. Images on the LCD monitor appear dark or whitish.	***31.*** • In places subject to low temperature, images become dark due to the characteristics of the LCD monitor. When this happens, the displayed colors differ from those that are actually recorded. This is not a defect of the camcorder. • When the LCD monitor's fluorescent light reaches the end of its service life, images on the LCD monitor become dark. Consult your nearest JVC dealer.	***31.*** • Adjust the brightness and angle of the LCD monitor (☞ pg. 17).
32. The rear of the LCD monitor is hot.	***32.*** • The light used to illuminate the LCD monitor causes it to become hot.	***32.*** • Close the LCD monitor to turn it off or set the Power Switch to "OFF", and let the unit cool down.
33. The indicators and the image colour on the LCD monitor are not clear.	***33.*** • This may occur when the surface or the edge of the LCD monitor is pressed.	***33.*** —
34. The LCD monitor or viewfinder indications blink.	***34.*** • Certain Fade/Wipe effects, certain modes of Programme AE with special effects, "DIS" and other functions that cannot be used together are selected at the same time.	***34.*** • Re-read the sections covering Fade/Wipe effects, Programme AE with special effects and "DIS" (☞ pg. 29, 31–35).
35. Colored bright spots appear all over the LCD monitor or the viewfinder.	***35.*** • The LCD monitor or the viewfinder is made with high-precision technology. However, black spots or bright spots of light (red, green or blue) may appear constantly on the LCD monitor or the viewfinder. These spots are not recorded on the tape. This is not due to any defect of the unit. (Effective dots: more than 99.99 %)	***35.*** —
36. During recording, sound cannot be heard.	***36.*** • The optional headphones are not connected to the headphones connector. • The sound volume of the headphones connector was not adjusted appropriately. The sound volume at this point is the same as the level it was adjusted to during playback.	***36.*** • Connect the optional headphones to the headphones connector (☞ pg. 74). • Adjust the sound volume during playback (☞ pg. 49).

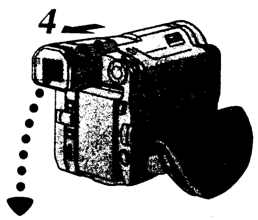
CONTINUED ON NEXT PAGE

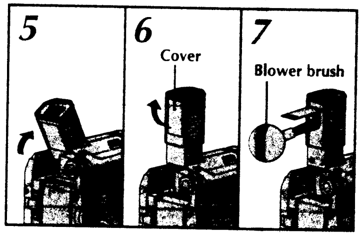
SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
37. Play, Rewind and Fast-Forward functions do not work.	**37.** • The Power Switch is not set to "PLAY".	**37.** • Set the Power Switch to "PLAY" (☞ pg. 43).
38. The tape is moving, but there is no picture.	**38.** • Your TV has AV input terminals, but is not set to its VIDEO mode. • The cassette's cover is open.	**38.** • Set the TV to the mode or channel appropriate for video playback (☞ pg. 48, 49). • Close the cassette's cover (☞ pg. [illegible]).
39. The LCD monitor indications are distorted.	**39.** • During playback of the unrecorded portion, High-speed Search and still playback, LCD monitor indications appear distorted. This is not a defect.	**39.** ———
40. Images on the LCD monitor are jittery.	**40.** • The speaker volume is too great.	**40.** • Turn the speaker volume down (☞ pg. 38).
41. The LCD monitor, the viewfinder and the lens have become dirty (ex. fingerprints).	**41.** ———	**41.** • Wipe them gently with soft cloth. Wiping strongly can cause damage.
42. An unusual mark appears.	**42.** ———	**42.** • Check the section of the manual that explains LCD monitor/ viewfinder indications (☞ pg. 74, 75).
43. An error indication E01 — E06 appears.	**43.** • A malfunction of some kind has occurred. In this case the camcorder's functions become unusable.	**43.** • Remove the power supply (battery pack, etc.) and wait a few minutes for the indication to clear. When it does, you can resume using the camcorder. If the indication remains even though you repeat the above two or three times, please consult your nearest JVC dealer.
44. The charger indicator on the AC Power Adapter/Charger does not light.	**44.** • The temperature of the battery is extremely high/low. • Charging is difficult in places subject to extremely high/low temperatures.	**44.** • To protect the battery, it is recommended to charge it in places with a temperature of 10°C to 35°C (☞ pg. 77).
45. The recording mode indicator "LP" blinks.	**45.** • This occurs when recording in the LP mode is not available. After the indicator blinks, the recording mode switches to "SP" and recording goes on.	**45.** ———
46. Picture does not appear on the LCD monitor.	**46** • The viewfinder is pulled out. • The LCD monitor's brightness setting is too dark.	**46.** • Push the viewfinder back in. • Adjust the brightness of the LCD monitor (☞ pg. 17). • If the monitor is tilted upward 180 degrees, open the monitor fully (☞ pg. 23).
47. When the image is printed from the printer, a black bar appears at the bottom of the screen.	**47.** • This is not a malfunction.	**47.** • By recording with "DIS" activated (☞ pg. 29) this can be avoided.
48. The power lamp blinks.	**48.** • The camcorder was turned on when the battery power was almost gone.	**48.** • Replace with a charged battery pack (☞ pg. 6, 7).

USER MAINTENANCE









After Use

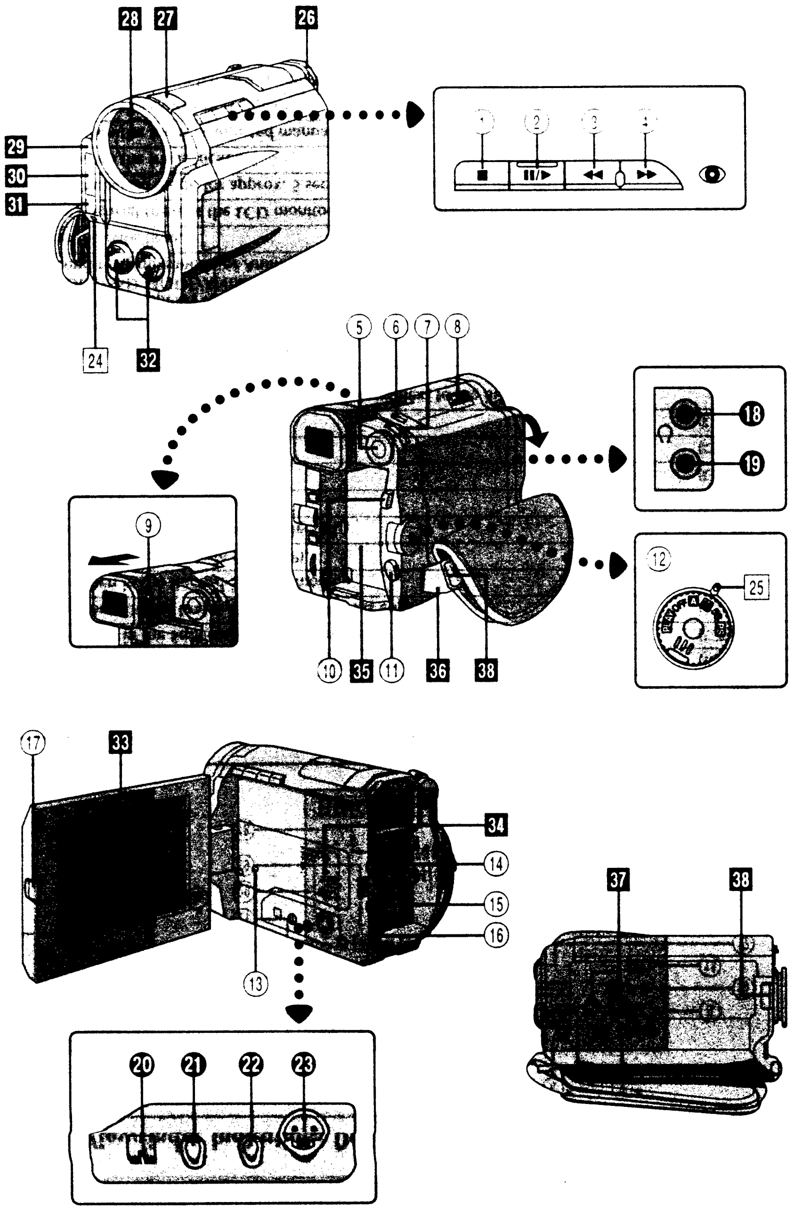
1. Turn off the camcorder.
2. Slide **OPEN/EJECT** in the direction of the arrow, then swing the cover open until it locks. The cassette holder opens automatically. Remove the cassette.
3. Press "PUSH HERE" to close the cassette cover.
4. Press the Battery Release Button and remove the battery pack.

Cleaning The Camcorder

1. **CLEAN EXTERIOR**
   Wipe gently with a soft cloth.
   - Put cloth in diluted mild soap and wring it well to wipe off heavy dirt. Then wipe again with a dry cloth.
2. **CLEAN LCD MONITOR**
   Press **PUSH-OPEN** and open the LCD monitor. Wipe gently with the provided cleaning cloth or a commercially available soft cloth. Be careful not to damage the monitor. Close the LCD monitor.
3. **CLEAN LENS**
   Blow it with a blower brush, then wipe gently with lens cleaning paper.
4. **PULL OUT VIEWFINDER FULLY**
5. **TILT VIEWFINDER VERTICALLY**
   Tilt the viewfinder upward to 90 degrees.
6. **OPEN COVER**
   Open the cover located on the bottom of the viewfinder.
7. **CLEAN VIEWFINDER**
   Remove dust using a blower brush.
8. **PUSH VIEWFINDER BACK IN**
   Close the cover until it locks in place. Tilt the viewfinder horizontally, and push it back in.

NOTES:

- *Avoid using strong cleaning agents such as benzine or alcohol.*
- *Cleaning should be done only after the battery pack has been removed or other power units have been disconnected.*
- *Mold may form if the lens is left dirty.*
- *When using a cleaner or chemically treated cloth refer to the cautions of each product.*



Controls

① Stop Button [■, STOP] ☞ pg. 43

② Play/Pause Button [▮▮/▶, PLAY/PAUSE] ☞ pg. 43

③ Rewind Button [◀◀, REW] ☞ pg. 43

④ • Fast-Forward Button [▶▶, FF] ☞ pg. 43
- Red-Eye Reduction Button [👁] ☞ pg. 26

⑤ Snapshot Dial [SNAPSHOT] ☞ pg. 24

⑥ Snapshot Button [SNAPSHOT] ☞ pg. 24

⑦ • Power Zoom Lever [T/W] ☞ pg. 18
- Speaker/Headphone Volume Control [VOL.] ☞ pg. 43

⑧ OPEN/EJECT Switch ☞ pg. 9

⑨ Diopter Adjustment Control ☞ pg. 11

⑩ Battery Release Switch [BATTERY RELEASE] ☞ pg. 7

⑪ Recording Start/Stop Button ☞ pg. 14

⑫ Power Switch ☞ pg. 13, 43

⑬ Date/Time Reset Button [RESET]
If pressed with the power supply removed, the previously set date/time is erased.

⑭ • High Speed Recording Button [HIGH SPEED] ☞ pg. 42
- Progressive Slow-Motion Playback Button ☞ pg. 45

⑮ MENU/IND.ON/OFF Button ☞ pg. 15, 28

⑯ • Select Dial [Ⓜ, PUSH] ☞ pg. 8, 28
- LCD Monitor/Viewfinder Brightness Control ☞ pg. 17

⑰ Monitor Open Button [PUSH-OPEN] ☞ pg. 16

Connectors

The connectors ⑱ to ㉓ are located beneath the cover.

⑱ • Audio/Video Output Connector [AV OUT] ☞ pg. 48
- Headphones Connector [🎧] ☞ pg. 64

⑲ External Stereo Microphone Input Connector [MIC] ☞ pg. 64

⑳ Digital Video Connector [DV IN/OUT: GR-DVL9600, DV OUT: GR-DVL9500] (i.link*) ☞ pg. 51
* i.Link refers to the IEEE1394-1995 industry specification and extensions thereof. The i logo is used for products compliant with the i.Link standard.

㉑ J terminal [JLIP (Joint Level Interface Protocol)/ DIGITAL STILL] ☞ pg. 50
It is used to connect the camcorder to a device such as a personal computer.
For further details consult your nearest JVC dealer.

㉒ Edit Connector [EDIT] ☞ pg. 58
Connect the editing cable when performing Random Assemble Editing (☞ pg. 58 – 63).

㉓ S-Video Output Connector [S OUT] ☞ pg. 48

Indicators

24 Tally Lamp ☞ pg. 14

25 Power Lamp ☞ pg. 14

Other Parts

26 Viewfinder ☞ pg. 11

27 Camera sensor
Be careful not to cover this area; a sensor necessary for shooting is built-in here.

28 Lens Cover
Opens when the viewfinder is pulled out or the LCD monitor is opened fully.

29 Remote Sensor ☞ pg. 54

30 Flash ☞ pg. 26

31 Flash Sensor ☞ pg. 26

32 Stereo Microphone ☞ pg. 64

33 LCD Monitor ☞ pg. 17

34 Speaker ☞ pg. 43

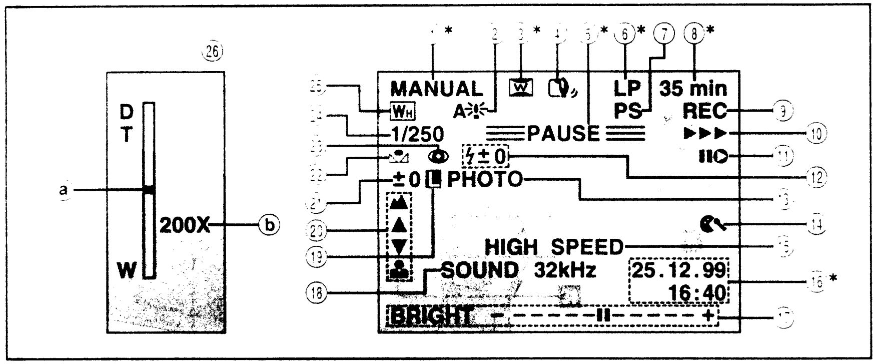
35 Battery Pack Mount ☞ pg. 7

36 Grip Strap ☞ pg. 11

37 Tripod Mounting Socket ☞ pg. 12

38 Shoulder Strap Eyelets ☞ pg. 12

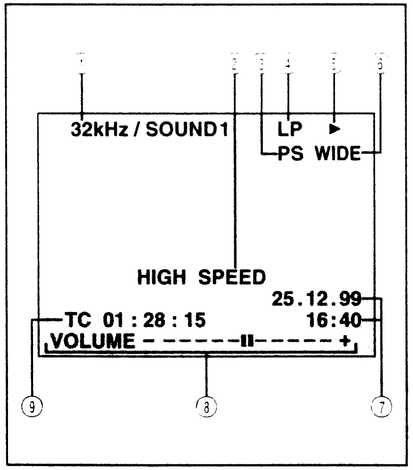
LCD Monitor/Viewfinder Indications During Recording



No.	Function
①*	Displays the operation mode position. (☞ pg. 13)
②	Appears when Auto Slow Shutter is engaged ("GAIN UP" is set to "AUTO"). (☞ pg. 29)
③*	Appears when in the Squeeze or Cinema mode. (☞ pg. 29)
④	Appears when Digital Image Stabiliser ("DIS") is engaged. (☞ pg. 29)
⑤*	Appears when in the Record-Standby mode. (☞ pg. 14)
⑥*	Displavs the recording mode (SP or LP). (☞ pg. 10)
⑦	Appears when Progressive mode is selected. (☞ pg. 22)
⑧*	Displays the tape remaining time. (☞ pg. 15)
⑨	Appears during recording. (☞ pg. 14)
⑩	Appears while the tape is running. (☞ pg. 14)
⑪	Appears during Insert Editing. (☞ pg. 65)
⑫	Appears when the flash is ready. A number appears next to the indication while adjusting the brightness of the flash. (☞ pg. 26, 27)
⑬	Appears when taking a Pro Snapshot. (☞ pg. 24)
⑭	Appears when the wind cut mode is engaged to cut down on noise created by wind. (☞ pg. 30)
⑮	• HIGH SPEED: Appears when High Speed Recording mode is selected. (☞ pg. 42) • 5S MODE/5SD MODE/ANIM.: Displavs the 5 second recording mode, Dissolve during 5 second recording mode or Animation recording mode. (☞ pg. 21)
⑯*	Displays the date/time. (☞ pg. 20)
⑰	Displays the brightness of the LCD monitor or the viewfinder. (☞ pg. 17)
⑱	Displays the sound mode for approx. 5 seconds after turning on the camcorder. (☞ pg. 30)
⑲	Appears when the iris is locked. (☞ pg. 39)
⑳	Appears when the focus is adjusted manually. (☞ pg. 37)
㉑	Appears when the exposure is adjusted. (☞ pg. 38)
㉒	Appears when the white balance is adjusted. (☞ pg. 41)
㉓	Appears when Red-Eye reduction is readv. (☞ pg. 26)
㉔	Displays the selected Programme AE with special effects. (☞ pg. 34)
㉕	Displavs the selected Fade/Wipe effect. (☞ pg. 31)
㉖	Appears during zooming. (☞ pg. 18) ⓐ Zoom level indicator ⓑ Approximate zoom ratio

* Pressing IND. ON/OFF for longer than 1 second lets you remove indications marked with * from the screen.

LCD Monitor/Viewfinder Indications During Playback



No.	Function
①	Displays the sound mode. (☞ pg. 41)
②	Appears when plaving back images recorded in High Speed Recording mode. (☞ pg. 45)
③	Displays playback of images recorded in Progressive mode. (☞ pg. 22)
④	Displays the recording mode.
⑤	Appears while a tape is running. ▶ : Playback ▶▶ : Fast-Forward/Shuttle search ◀◀ : Rewind/Shuttle search ❚❚ : Pause ❚❚▶ : Forward slow-motion ◀❚❚ : Reverse slow-motion ● : Audio Dubbing
⑥	During playback of image recorded in High Speed Recording mode, the screen mode (Zoom or Wide) is displayed. (☞ pg. 45)
⑦	Displays the date/time. (☞ pg. 41)
⑧	BRIGHT: Displays the brightness of the LCD monitor or the viewfinder. (☞ pg. 17) VOLUME: Displays the speaker or headphone volume. (☞ pg. 43)
⑨	Displays the time code. (☞ pg. 41)

Warning Indications

Indications	Function
▮▮▮	Displays the battery remaining power. Remaining power level: high ——— ▮▮▮ → ▮▮ → ▮ → ▭ Remaining power level: exhausted ——— As the battery power comes close to nil, the battery indicator ▭ blinks. When the battery power is exhausted, power turns off automatically.
📼	Appears when no tape is loaded, or when the erase protection tab is set to "SAVE". (☞ pg. 9)
⊗	Appears if dirt is detected on the heads during recording. (☞ pg. 79)
💧	Appears if condensation occurs. When this indication is displayed, the camcorder turns off automatically.
TAPE!	Appears for 10 seconds after power is turned on if there is no tape loaded.
TAPE END	Appears when the tape ends during recording or playback. (☞ pg. 15)
SET DATE/TIME!	• Appears when the date/time is not set. (☞ pg. 8) • Appears when the clock (lithium) battery is discharged and the previously set date/time is erased. (☞ pg. 8)
ERROR! REFER MANUAL	Appears when Audio Dubbing or Insert Editing is unavailable. (☞ pg. 68, 69)
E01 — E06	The error indications (E01 — E06) show what type of malfunction has occured. *When an error indication appears, the camcorder turns off automatically. Remove* the power supply (battery, etc.) and wait a few minutes for the indication to clear. When it does, you can resume using the camcorder. If the indication remains, consult your nearest JVC dealer. (☞ pg. 70)

INDEX Terms

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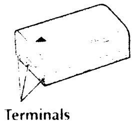
CAUTIONS

Battery Packs



The supplied battery pack is a lithium-ion battery. Before using the supplied battery pack or an optional battery pack, be sure to read the following cautions:

1. To avoid hazard . . .
.... **do not** burn.
.... **do not** short-circuit the terminals.
.... **do not** modify or disassemble.
.... **do not** expose the battery to temperatures exceeding 60°C (140°F), as this may cause the battery to overheat, explode or catch fire.
.... use only specified chargers.

2. To prevent damage and prolong service life . . .
.... **do not** subject to unnecessary shock.
.... charge in an environment where temperatures are within the tolerances shown in the chart below. This is a chemical reaction type battery—cooler temperatures impede chemical reaction, while warmer temperatures can prevent complete charging.
.... store in a cool, dry place. Extended exposure to high temperatures will increase natural discharge and shorten service life.
.... fully charge and then fully discharge the battery every 6 months when storing the battery pack over a long period time.
.... remove from charger or powered unit when not in use, as some machines use current even when switched off.

NOTES:

- *It is normal for the battery pack to be warm after charging, or after use.*

Temperature Range Specifications

Charging	10°C to 35°C (50°F to 95°F)
Operation	0°C to 40°C (32°F to 104°F)
Storage	–10°C to 30°C (–14°F to 86°F)

- *Recharging time is based on room temperature of 20°C (68°F).*
- *The lower the temperature, the longer recharging takes.*

Cassettes

To properly use and store your cassettes, be sure to read the following cautions:

1. During use . . .
.... make sure the cassette bears the Mini DV mark.
.... be aware that recording onto prerecorded tapes automatically erases the previously recorded video and audio signals.
.... make sure the cassette is positioned properly when inserting.
.... do not load and unload the cassette repeatedly without allowing the tape to run at all. This slackens the tape and can result in damage.
.... do not open the front tape cover. This exposes the tape to fingerprints and dust.

2. Store cassettes . . .
.... away from heaters or other heat sources.
.... out of direct sunlight.
.... where they won't be subject to unnecessary shock or vibration.
.... where they won't be exposed to strong magnetic fields (such as those generated by motors, transformers or magnets).
.... vertically, in their original cases.

LCD Monitor

1. To prevent damage to the LCD monitor, DO NOT . . .
.... push it strongly or apply any shocks.
.... place the camcorder with the LCD monitor on the bottom.

2. To prolong service life . . .
.... avoid rubbing it with coarse cloth.

3. Be aware of the following phenomena for LCD monitor use. These are not malfunctions. . . .
- While using the camcorder, the surface around the LCD monitor and/or the back of the LCD monitor may heat up.
- If you leave power on for a long time, the surface around the LCD monitor becomes hot.

Main Unit

1. For safety, DO NOT . . .
.... open the camcorder's chassis.
.... disassemble or modify the unit.
.... short-circuit the terminals of the battery pack. Keep it away from metallic objects when not in use.
.... allow inflammables, water or metallic objects to enter the unit.
.... remove the battery pack or disconnect the power supply while the power is on.
.... leave the battery pack attached when the camcorder is not in use.

2. Avoid using the unit . . .
.... in places subject to excessive humidity or dust.
.... in places subject to soot or steam such as near a cooking stove.
.... in places subject to excessive shock or vibration.
.... near a television set.
.... near appliances generating strong magnetic or electric fields (speakers, broadcasting antennas, etc.).
.... in places subject to extremely high (over 40°C or 104°F) or extremely low (under 0°C or 32°F) temperatures.

3. DO NOT leave the unit . . .

.... in places of over 50°C (122°F).

.... in places where humidity is extremely low (below 35%) or extremely high (above 80%).

.... in direct sunlight.

.... in a closed car in summer.

.... near a heater.

4. To protect the unit, DO NOT . . .

... allow it to become wet.

.... drop the unit or strike it against hard objects.

.... subject it to shock or excessive vibration during transportation.

.... keep the lens directed at extremely bright objects for long periods.

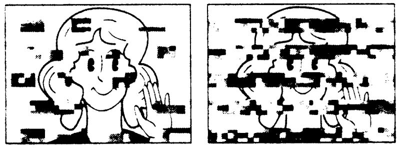
.... expose the lens to direct sunlight.

.... carry it by holding the LCD monitor or the viewfinder.

.... swing it excessively when using the hand strap or the grip.

.... swing the soft camera case excessively when the camcorder is inside it.

5. Dirty heads can cause the following problems:



- No picture during playback.
- Blocks of noise appear during playback.
- During recording, the Head Clog Warning indicator "⊗" appears.

In such cases, use the optional Cleaning Cassette. Insert it and play back. If the cassette is used more than once consecutively, damage to the video heads may result. After the camcorder plays back for about 20 seconds, it stops automatically. Also refer to the Cleaning Cassette's instructions.
If, after using the Cleaning Cassette, the problems still exist, consult your nearest JVC dealer.
Mechanical moving parts used to move the video heads and video tape tend to become dirty and worn out over time. In order to maintain a clear picture at all times, periodic check-ups are recommended after using the unit for about 1,000 hours. For periodic check-ups please consult your nearest JVC dealer.

How To Handle A CD-ROM

- Take care not to soil or scratch the mirror surface (opposite to the printed surface). Do not write anything or put a sticker on either the front or back surface. If the CD-ROM gets dirty, gently wipe it with a soft cloth outward from the centre hole using a circular motion.
- Do not use conventional disc cleaners or cleaning spray.
- Do not bend the CD-ROM or touch its mirror surface.
- Do not store your CD-ROM in a dusty, hot or humid environment. Keep it away from direct sunlight.

About moisture condensation . . .

- You have observed that pouring a cold liquid into a glass will cause drops of water to form on the glass' outer surface. This same phenomenon occurs on the head drum of a camcorder when it is moved from a cool place to a warm place, after heating a cold room, under extremely humid conditions or in a place directly subjected to the cool air from an air conditioner.
- Moisture on the head drum can cause severe damage to the video tape, and can lead to internal damage to the camcorder itself.

Serious malfunctioning

If malfunctioning occurs, stop using the unit immediately and consult your local JVC dealer.

The camcorder is a microcomputer-controlled device. External noise and interference (from a TV, a radio, etc.) might prevent it from functioning properly. In such cases, first disconnect its power supply unit (battery pack, AC Power Adapter/Battery Charger, etc.) and wait a few minutes and then re-connect it and proceed as usual from the beginning.

SPECIFICATIONS

Camcorder

General

Power supply : DC 6.3 V ⎓ (Using the AC Power Adapter Charger)
DC 7.2 V ⎓ (Using battery pack)

Power consumption
  LCD monitor off, viewfinder on : Approx. 5.3 W
  LCD monitor on, viewfinder off : Approx. 6.5 W
  LCD monitor on, viewfinder on : Approx. 7.1 W

Format : DV Format (SD mode)

Signal format : PAL Standard

Video signal recording format : Digital Component Recording

Cassette : Mini DV Cassette

Tape Speed : SP: 18.8 mm/s
LP: 12.5 mm/s

Maximum recording time : SP: 60 min.
LP: 90 min. (using M-DV60ME cassette)

Pickup : 1/3" CCD

Lens : F1.8, f = 5 to 50 mm, 10:1 Power Zoom Lens

Filter diameter : ø37 mm

LCD monitor : 3.8" diagonally measured, LCD panel/TFT active matrix system

Viewfinder : Electronic viewfinder with 0.55" colour LCD

Speaker : Monaural

Operating temperature : 0°C to 40°C

Operating humidity : 35% to 80%

Storage temperature : –20°C to 50°C

Dimensions : 72 (W) x 94 (H) x 128 (D) mm
(with the LCD monitor closed, and with the viewfinder fully tilted downward and pushed back in)

Weight : Approx. 670 g

Connectors

S-Video output : Y: 1Vp-p, 75 Ω, analogue output
C: 0.29 Vp-p, 75 Ω, analogue output

Video output : 1 Vp-p, 75 Ω unbalanced, analogue output (via AV OUT connector)

JLIP/Digital still output : ø3.5 mm, 4-pole, mini-head jack (compatible with RC-5325 plug)

Audio output : –8 dBs, 1 kΩ analogue output (via AV OUT connector)

Headphone output : ø3.5 mm, stereo (via AV OUT connector)

External microphone input : –68 dBs, high impedance unbalanced with ø3.5 mm (stereo)

DV connector : 4-pin, IEEE1394 confirmity
(GR-DVL9600: input/output, GR-DVL9500: output only)

AC Power Adapter/Charger AA-V68EK

Power requirement : AC 110 V to 240 V∿, 50/60 Hz

Power consumption : 20 W

Output
  Charge : DC 7.2 V ⎓, 0.77 A
  VTR : DC 6.3 V ⎓, 1.8 A

Dimensions : 94 (W) x 35 (H) x 122 (D) mm

Weight : Approx. 300 g

Specifications shown are for SP mode unless otherwise indicated. E & O.E. Design and specifications subject to change without notice.

SECTION 1
DISASSEMBLY

1.1 BEFORE ASSEMBLY AND DISASSEMBLY

1.1.1 Precautions

1. Be sure to remove the power supply unit prior to mounting and soldering of parts.
2. When connecting and disconnecting the connectors, be careful not to damage the wire.
3. When replacing chip parts (especially IC parts), desolder completely first (to prevent peeling of the pattern).
4. Tighten screws properly during the procedures.
   Unless specified otherwise, tighten screws at a torque of 0.075N•m (0.75 kgf•cm).

1.1.2 Assembly and disassembly

STEP /LOC NO.	PART	Fig. No.	REMOVAL	
			*UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER	Note
(1)	FRONT COVER ASSEMBLY	1-3-1	(S1), 3(S2), 2(S3), (S4), 2(L1) (L2), (L3) *CONNECTOR Ⓐ, Ⓑ, Ⓒ WINDOW (W/B), JACK COVER	Note 1,2
②	UPPER CASE ASSEMBLY	1-3-2	2(S1), 5(S2), 2(S4), 2(S5) 2(S6), (S7), (S8), (L3) *CONNECTOR Ⓓ, Ⓔ	Note 3
(3)	MONITOR ASSEMBLY	1-3-3	2(S9), (L3) *CONNECTOR Ⓕ	Note 4

(1) (2) (3) ④ ⑤

(1) :Indicate the disassembly steps. When assembling, perform in the reverse order of these steps. This number corresponds to the number in the disassembly diagram.

(2) :Indicates the name of disassembly/assembly parts.

(3) :Indicates the number in the disassembly diagram.

(4) :Indicates parts and points such as screws, washers, springs which must be removed during disassembly/assembly.

P = Spring
W = Washer
S = Screw
*Lock (L), soldering (SD), shield, connector, etc.

[Example] • Remove (W1) = Washer W1.
• Remove (SD1) = Soldering at the point SD1.
• Connector Ⓐ = Disconnector the connector Ⓐ.

(5) :Precautions on disassembly/assembly.

1.1.3 Disconnection of Connectors (Wires)

Connector
Pull both ends of the connector in the arrow direction, remove the lock and disconnect the flat wire.

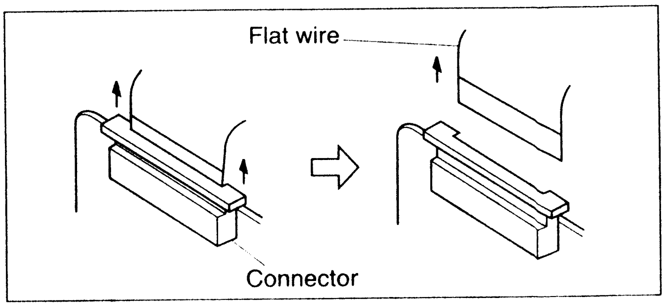


Fig. 1-1-1 Connector 1

Extend the locks in the direction of the arrow for unlocking and then pull out the wire. After removing the wire, immediately restore the locks to their original positions because the locks are apt to come off the connector.

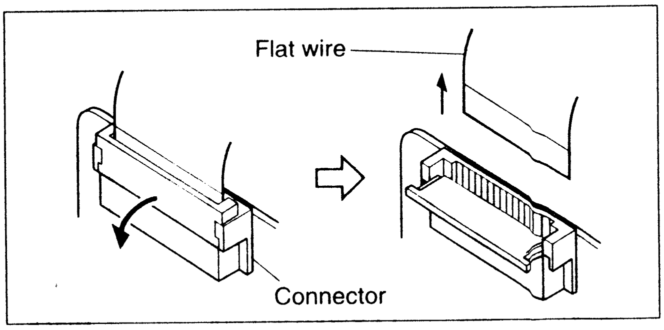


Fig. 1-1-2 Connector 2

B-B Connector
Pull the board by both the sides in the direction of the arrow for disconnecting the B-B connector.

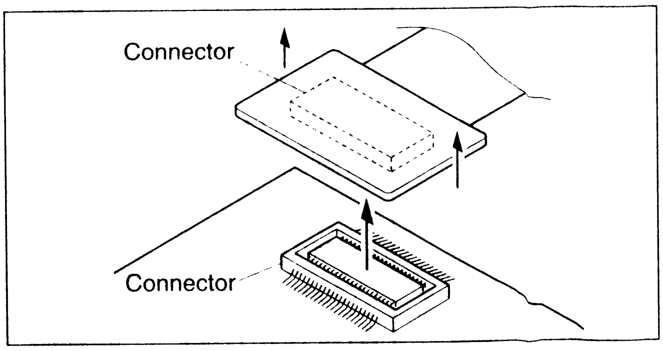


Fig. 1-1-3 Connector 3

1.1.4 Screws used in assembly of cabinet parts and boards

The following Table 1-1-1 shows the symbols, shapes, and parts numbers of the screws used in the disassembly and assembly diagrams of cabinet parts and board assemblies. Prior to assembly, check the following table and be sure to use the correct screw.

Note: *Screw that are asterisked (marked with *) in the shape column are fixed with screw lock agent. If such the screw in once removed, never used it again.*

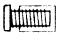
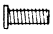
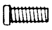
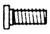
Symbol	Shape	Part No.	Color
(S1)	*	LY30018-067B	Black
(S2)		LY30018-060A	Silver
(S3)		LY30018-063A	Black
(S4)		LY30018-047A	Silver
(S5)		QYSPSPU1640R	Silver
(S6)	*	LY30018-075A	Black
(S7)		LY30018-044A	Black
(S8)		LY30018-005A	Black
(S9)	 *	LY30018-068A	Gold
(S10)		LY30018-017A	Silver
(S11)	*	LY30018-046A	Gold
(S12)		LY30018-057A	Silver
(S13)	*	LY30018-064A	Black
(S14)		LY30018-023A	Black
(S15)		LY30018-037A	Black
(S16)		LY30018-021A	Black
(S17)		LY30018-022A	Black
(S18)		LY30018-014A	Gold
(S19)		LY30019-003A	Gold
(S20)	*	LY30018-028A	Silver
(S21)		QYSPSPT1740R	Silver
(S22)		QYSPSPT1735D	Black
(S23)	*	LY30018-032A	Silver
(S24)		LY30018-049A	Gold
(S25)	*	LY30018-038A	Black
(S26)		QYSPSGU1750Z	Gold
(S27)		LY30727-002A	Gold
(S28)		LY30727-001A	Black
(S29)	*	LY30018-066A	Black

Table 1-1-1

1.2 TOOLS REQUIRED FOR ADJUSTMENTS

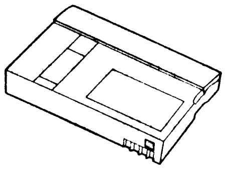
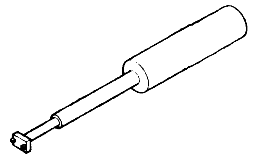
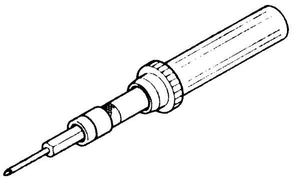
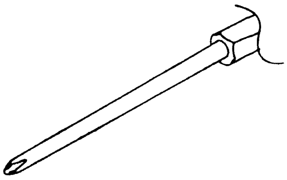
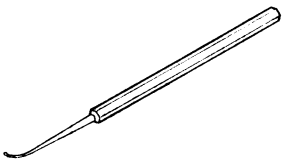
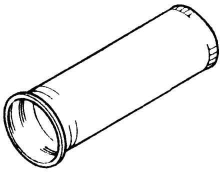
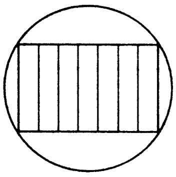
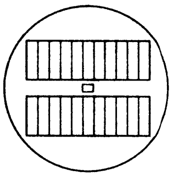
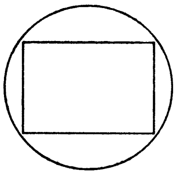
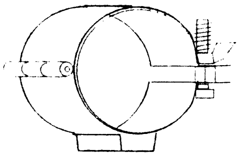
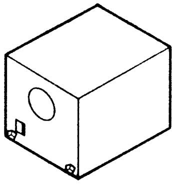
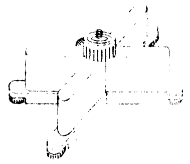
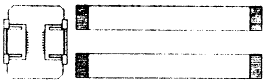
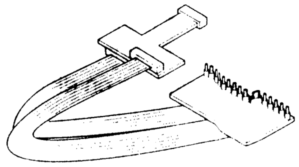
1 ALIGNMENT TAPE MC-2	2 GUIDE DRIVER YTU94085
	
3 TORQUE DRIVER YTU94088	4 BIT YTU94088-003
	
5 CHIP IC REPLACEMENT JIG PTS40844-2	6 INF ADJUSTMENT LENS YTU92001B
	
7 COLOR BAR CHART YTU92001-051	8 GRAY SCALE CHART YTU92001-052
	
9 WHITE BALANCE CHART YTU92001-053	10 IINF LENS HOLDER YTU94087
	
11 LIGHT BOX YTU93072A-1	12 CAMERA STAND YTU93079
	
13 PATCH CORD YTU93095A	14 JIG CONNECTOR CABLE YTU93082D
	

Table 1-2-1

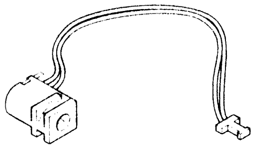
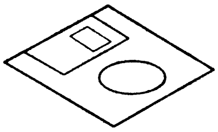
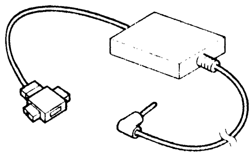
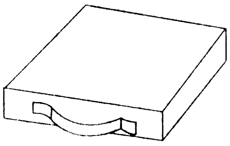
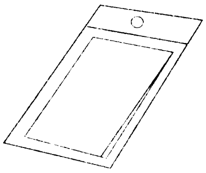
15 POWER SUPPLY JIG YTU94143A	16 SERVICE SUPPORT SYSTEM SOFTWARE YTU94057-35
	
17 PC CABLE QAM0099-002	18 SOLDERING KIT YTU96016C
	
19 CLEANING CLOTH KSMM-01	
	

Table 1-2-2

1. Alignment tape
   To be used for check and adjustment of interchangeability of the mechanism.
   (Video: Color bar signal. Audio: Non-signal)

2. Guide driver
   To be used to turn the guide roller for adjustment of the linearity of playback envelope

3. Torque driver
   Be sure to use to fastening the mechanism and exterior parts because those parts must strictly be controlled for tightening torque.

4. Bit
   This bit is slightly longer than those set in conventional torque drivers.

5. Chip IC replacement jig
   To be used for replacing chip IC's and other chip parts.

6. INF adjustment lens
   To be used for adjustment of the camera system.

7. Color bar chart
   To be used for adjustment of the camera system.

8. Gray scale chart
   To be used for adjustment of the camera system.

9. White balance chart
   To be used for adjustment of the camera system. (for white balance adjustment)

10. INF lens holder
    To be used together with the camera stand (12) for operating the VideoMovie in the stripped-down condition such as the status without the exterior parts or for using commodities that are not yet conformable to the interchangeable ring.

11. Light box
    To be used for adjustment of the camera system.

12. Camera stand
    To be used together with the INF adjustment lens holder (10).

13. Patch cord
    To be used to connect electrical parts, P.C. boards, etc. for servicing.

14. JIG connector cable
    Connect this cable to CN108 of the MAIN1 board for measuring error rates, etc. with the error rate measuring instrument.

15. Power supply jig
    A jig cable to be used to supply power to the main unit during adjustment.

16. Service support system software
    To be used for adjustment with a personal computer.

17. PC cable
    To be used to connect the VideoMovie and a personal computer with each other when a personal computer is used for adjustment.

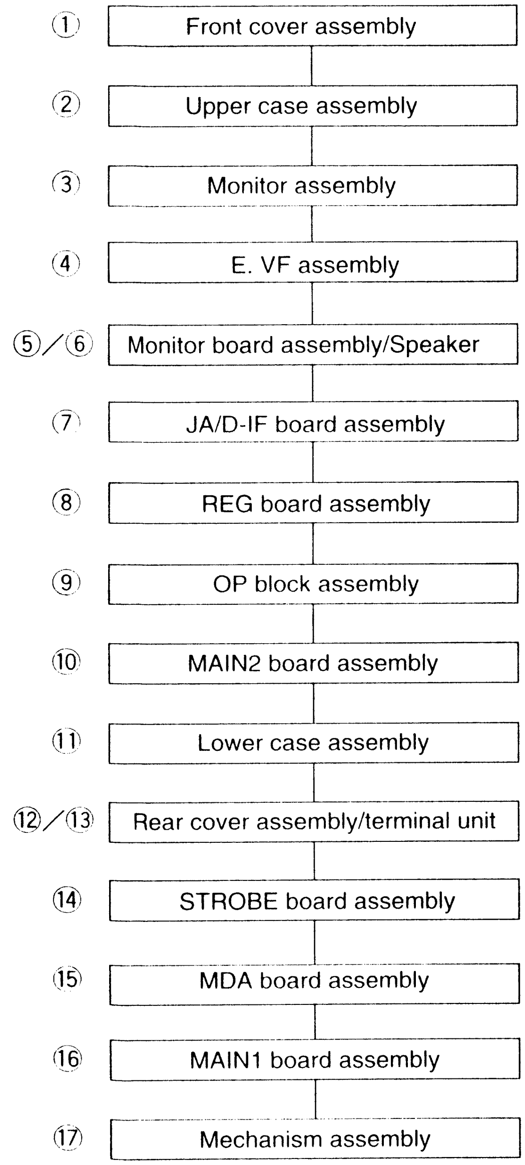
18. Soldering kit
    Thin head is made so that it can be inserted into small spaces.

19. Cleaning cloth
    Recommended cleaning cloth to wipe down the video heads, mechanism (tape transport system), optical lens surface and screen of the LCD monitor.

1.3 DISASSEMBLY/ASSEMBLY OF CABINET PARTS

1.3.1 Disassembly flow chart

The following flowchart shows the procedure to disassemble the exterior parts. When reassembling the exterior parts, follow this flowchart in the reverse order.


① Front cover assembly
② Upper case assembly
③ Monitor assembly
④ E. VF assembly
⑤/⑥ Monitor board assembly/Speaker
⑦ JA/D-IF board assembly
⑧ REG board assembly
⑨ OP block assembly
⑩ MAIN2 board assembly
⑪ Lower case assembly
⑫/⑬ Rear cover assembly/terminal unit
⑭ STROBE board assembly
⑮ MDA board assembly
⑯ MAIN1 board assembly
⑰ Mechanism assembly

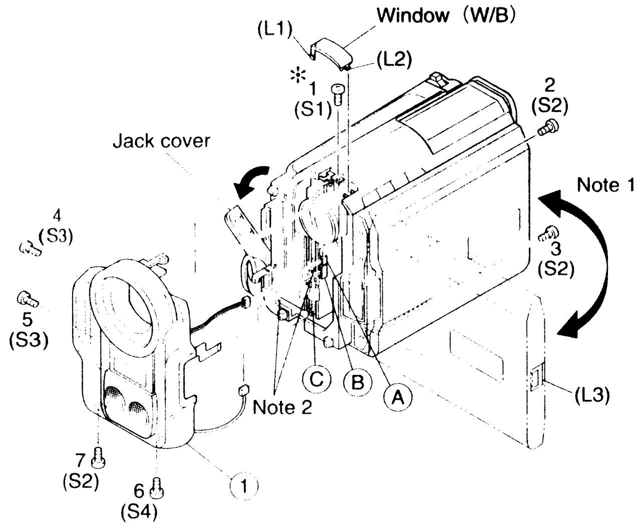
1.3.2 Disassembly method

Note: *Numbers in circles indicate the order to dismantle the exterior parts.*
Numbers of screws indicate the order to remove them, while symbols in parentheses show the types of the screw.

STEP /LOC NO.	PART	Fig. No.	REMOVAL	
			*UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER	Note
①	FRONT COVER ASSEMBLY	1-3-1	(S1), 3(S2), 2(S3), (S4), 2(L1) (L2), (L3) *CONNECTOR Ⓐ, Ⓑ, Ⓒ WINDOW (W/B), JACK COVER	Note 1,2
②	UPPER CASE ASSEMBLY	1-3-2	2(S1), 5(S2), 2(S4), 2(S5) 2(S6), (S7), (S8), (L3) *CONNECTOR Ⓓ, Ⓔ	Note 3
③	MONITOR ASSEMBLY	1-3-3	2(S9), (L3) * CONNECTOR Ⓕ	Note 4
④	E.VF ASSEMBLY	1-3-4	2(S10), *CONNECTOR Ⓖ Heat sink (2)	Note 5
⑤/⑥	MONITOR BOARD ASSEMBLY/ SPEAKER	1-3-5	3(S7) *CONNECTOR Ⓗ (S11), BRACKET (SPEAKER)	– Note 6
⑦	JA/D-IF BOARD ASSEMBLY	1-3-6	(S12), (L4) *CONNECTOR Ⓙ	–
⑧	REG BOARD ASSEMBLY	1-3-7	(L5), (L6) *CONNECTOR Ⓚ, Ⓛ	Note 7
⑨	OP BLOCK ASSEMBLY	1-3-8	2(S13) *CONNECTOR Ⓜ, Ⓝ	Note 8,9
⑩	MAIN2 BOARD ASSEMBLY	1-3-9	(L7), (L8), (L9) *CONNECTOR Ⓞ, Ⓟ, Ⓠ HOLDER (CN201)	Note 10
⑪	LOWER CASE ASSEMBLY	1-3-10	3(S1), 2(S2), 3(S13) *CONNECTOR Ⓡ BRAKET BOTTOM, BASE	–
⑫/⑬	REAR COVER ASSEMBLY/BATTERY TERMINAL UNIT	1-3-11	(S13), (S14), 2(S15) (S15), (L10)	Note 11 Note 12
⑭	STROBE BOARD ASSEMBLY	1-3-12	3(S16), (L11) JACK COVER	Note 13
⑮	MDA BOARD ASSEMBLY	1-3-13A 1-3-13B	(S17), (S18) *CONNECTOR Ⓢ, Ⓣ, Ⓤ, Ⓥ *CONNECTOR Ⓦ	– Note 14,15
⑯	MAIN1 BOARD ASSEMBLY	1-3-14	(S18), (L12), (L13), (L14), (L15) *CONNECTOR Ⓧ, Ⓨ SHIELD COVER	–
⑰	MECHANISM ASSEMBLY	1-3-15	2(S19), 2(L16) BRACKET (1)	Note 16

① Front cover assembly

Remove the window (W/B) first and one screw (1) next. Open the monitor assembly and then remove two screws (2, 3) from the upper and lower parts in the rear of the cabinet. Open the jack cover. Remove two screws (4, 5) first and two screws (6, 7) next. While shifting the front cover assembly slightly frontwards, disconnect three connectors Ⓐ, Ⓑ, Ⓒ and then remove the front cover assembly completely.



*: Don't reuse these screws because they were fastened by screw lock bond.

Note 1: Carefully open/close the monitor neither to soil its screen nor to scratch the exterior.

Note 2: When reassembling the front cover assembly to the cabinet, carefully arrange wires so that they are folded up between boards and in internal rooms of the cabinet not to be caught between cabinet parts.

Fig. 1-3-1

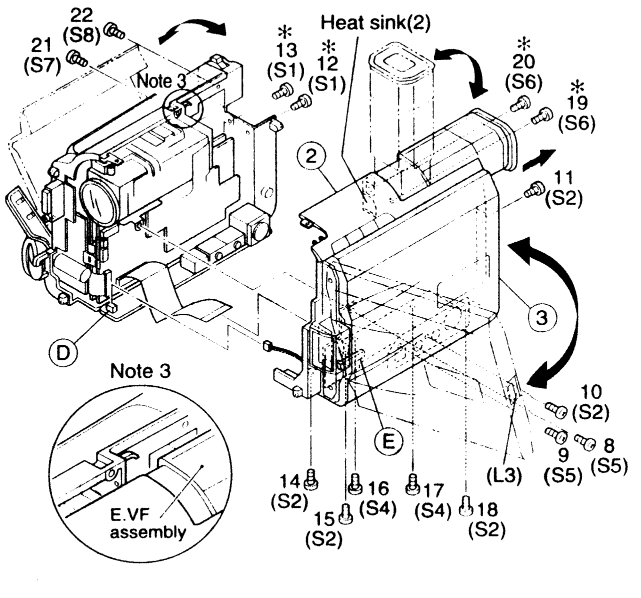
② Upper case assembly

Open the monitor assembly and remove three screws (8 to 10) while leaning the monitor assembly. After removing the screws, close the monitor assembly.

Remove eight screws (11 to 18).

Upright the electronic viewfinder by pulling it up and then remove two screws (19, 20).

Open the cassette cover and remove two screws (21, 22). After removing the two screws, close the cassette cover. Remove the upper case assembly by the rear side first and disconnect two connectors Ⓓ, Ⓔ with care not to damage the spacer (heat sink), if there is. Then, remove the upper case assembly completely.



*: Don't reuse these screws because they were fastened by screw lock bond.

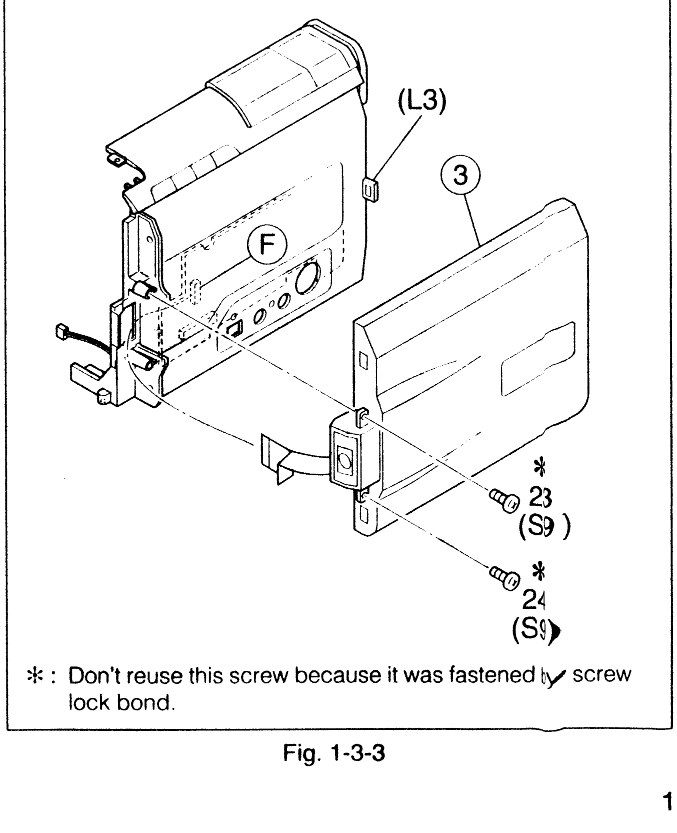
Note 3: When reassembling the upper case assembly, hold the electronic viewfinder assembly in the upright position.

Fig. 1-3-2

③ Monitor assembly

Disconnect one connector Ⓕ by pulling it out and remove two screws (23, 24). While unhooking (L3), remove the monitor assembly.

Note 4: For disassembling of the monitor assembly in detail, refer to "1.4 Disassembling/Reassembling Monitor assembly".



*: Don't reuse this screw because it was fastened by screw lock bond.

Fig. 1-3-3

④ Electronic viewfinder assembly

Disconnect one connector Ⓖ by pulling it out and remove two screws (25, 26). After peeling off the heat sink (2), remove the electronic viewfinder assembly.

Note 5: For disassembling of the electronic viewfinder assembly in detail, refer to "1.5 disassembling/reassembling electronic viewfinder assembly".

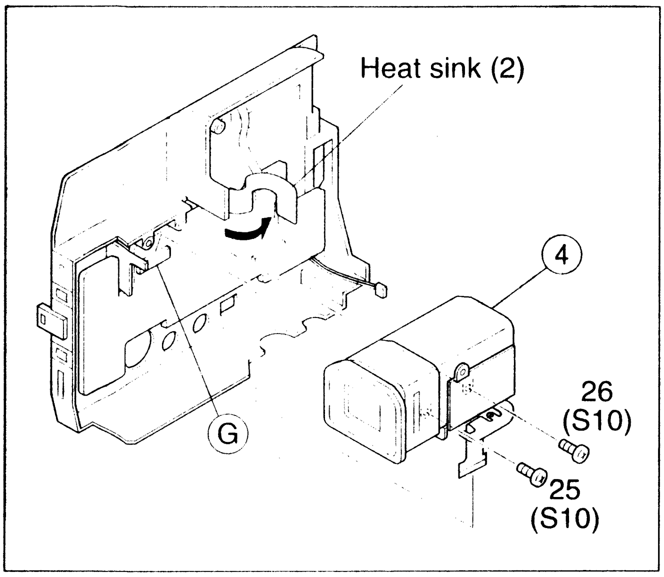
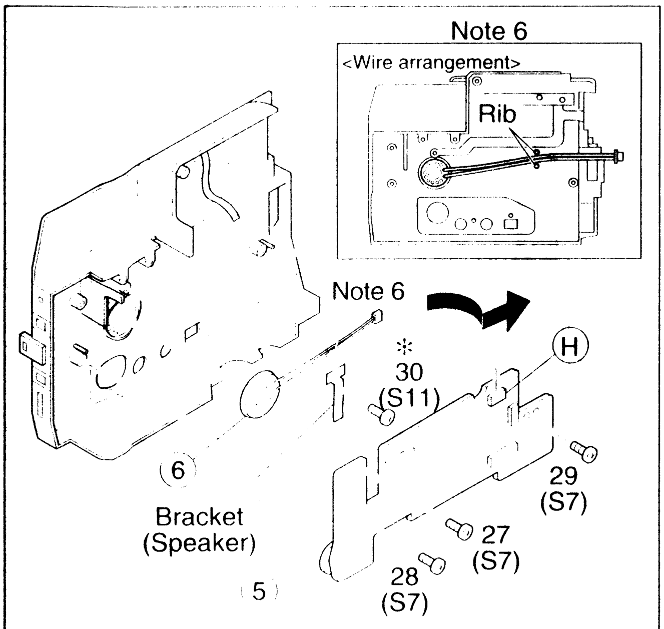


Fig. 1-3-4

⑤ MONITOR board assembly / ⑥ Speaker

1. Disconnect one connector Ⓗ by pulling it out and remove three screws (27, 28, 29). Then, remove the MONITOR board assembly.
2. Letting the speaker remaining as it is, remove one screw (30) retaining the bracket (for speaker). After removing the bracket, remove the speaker and the MONITOR board assembly.



✻ : Don't reuse these screws because they were fastened by screw lock bond.

Fig. 1-3-5

⑦ JA/D-IF board assembly

Disconnect one connector Ⓙ by pulling it out and remove one screw (31). Then, remove the JA/D-IF board assembly.

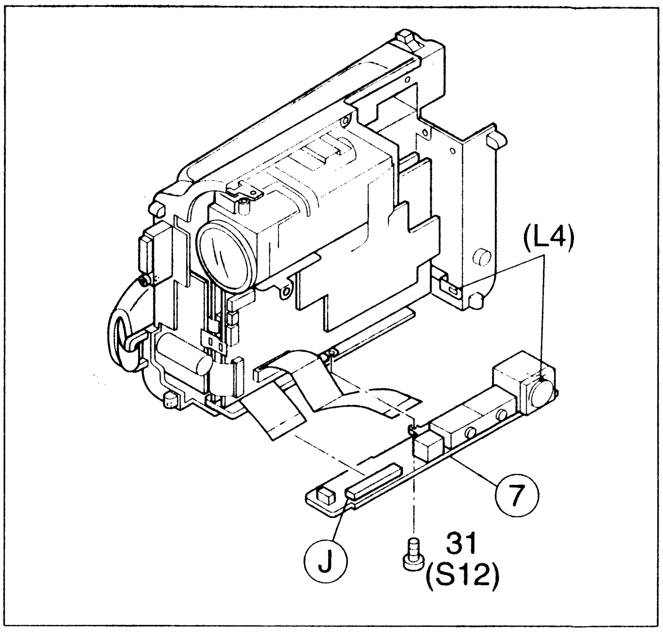


Fig. 1-3-6

⑧ REG board assembly

Unhook (L5) and disconnect one connector Ⓚ while pulling it out. Then, remove the REG board assembly while pulling out the other connector Ⓛ for disconnection.

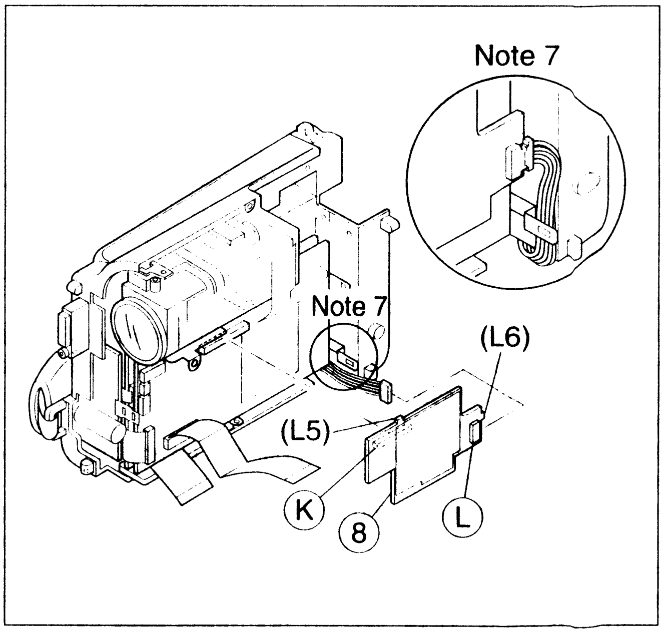
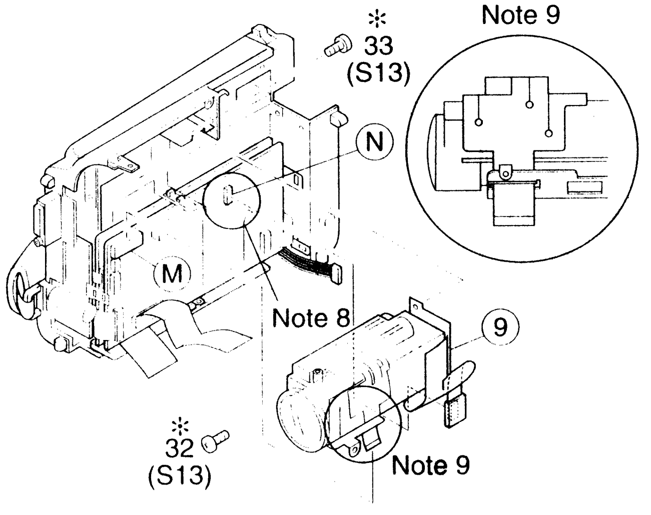


Fig. 1-3-7

⑨ OP block assembly

Disconnect two connectors Ⓜ, Ⓝ and remove two screws (32, 33). Then, remove the OP block assembly.



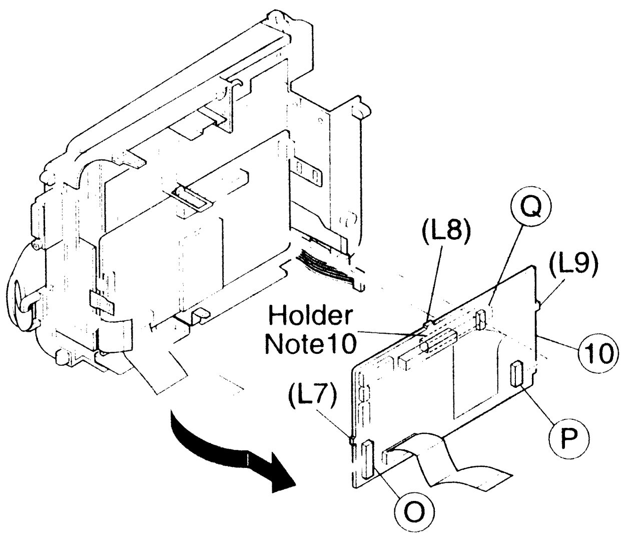
✻ : Don't reuse these screws because they were fastened by screw lock bond.

Note 8: When reconnecting the connectors in reassembling, make sure of tight connection of each connector.

Fig. 1-3-8

⑩ MAIN2 board assembly

First disconnect two connectors Ⓞ, Ⓟ, next disconnect one connector Ⓠ while unhooking (L7). Then, remove the MAIN2 board assembly.

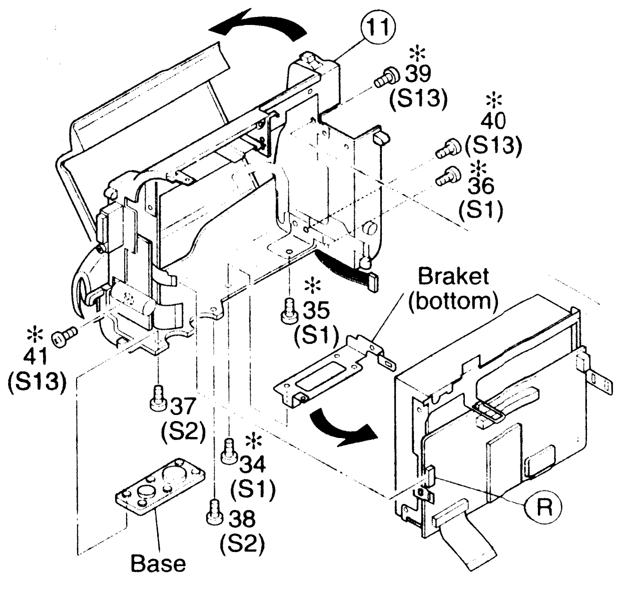


Note 10: Pay heed to the holder attached to CN201 not to lose it during disassembling.

Fig. 1-3-9

⑪ Lower case assembly

1. Remove three screws (34 to 36) and then remove the bracket (bottom).
2. Remove two screws (37, 38) and then remove the base.
3. Disconnect one connector Ⓡ and remove three screws (39 to 41). Holding the cassette cover open, remove the lower case assembly.

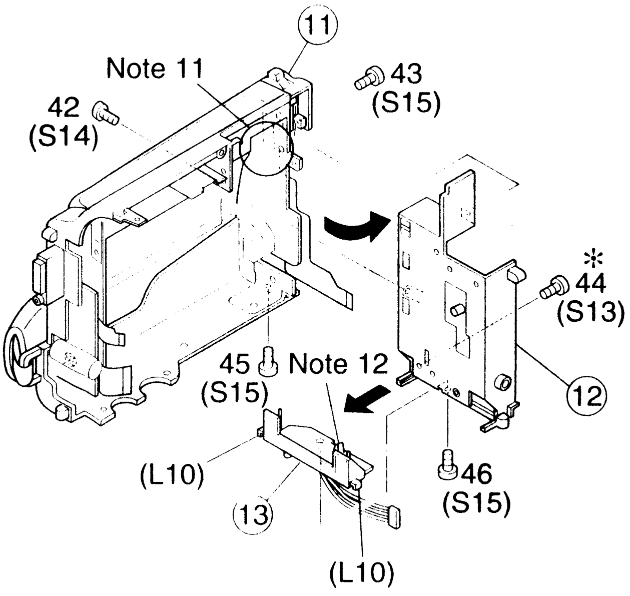


✻ : Don't reuse these screws because they were fastened by screw lock bond.

Fig. 1-3-10

⑫ Rear cover assembly / ⑬ Battery terminal unit

1. Remove four screws (42 to 45), and then remove the rear cover assembly while sliding it in the direction of the arrow. (see Fig. 1-3-11)
2. Remove one screw (46) and then remove the battery terminal unit while sliding ot in the direction of the arrow. (see Fig. 1-3-11)


⑪
Note 11
43
(S15)
42
(S14)
*
44
(S13)
45
Note 12
(S15)
⑫
(L10)
⑬
46
(S15)
(L10)

*: Don't reuse this screw because it was fastened by screw lock bond.

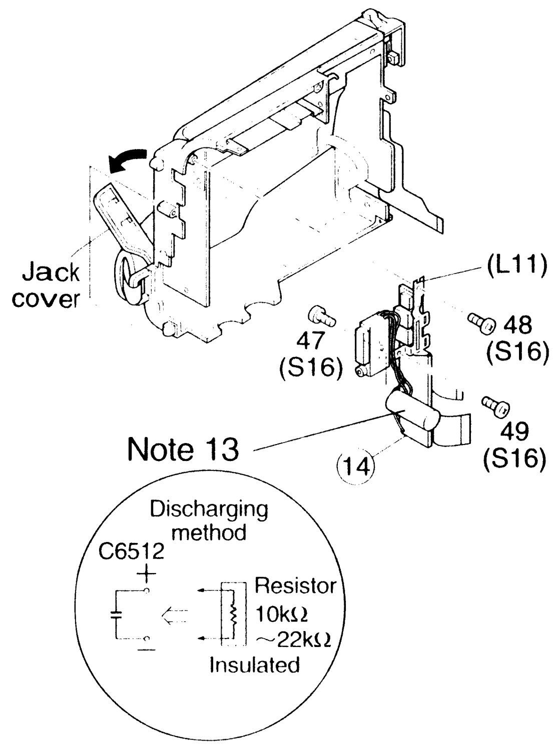
Note 11: When reassembling, pay careful attention to the FPC (operation) not to damage it.

Note 12: When disassembling/reassembling, pay heed to the switches not to damage them.

Fig. 1-3-11

⑭ STROBE board assembly

Holding the jack cover open, remove three screws (47 to 49). Then remove the STROBE board assembly.


Jack cover
(L11)
47
(S16)
48
(S16)
49
(S16)
Note 13
⑭
Discharging method
C6512
+
Resistor
10kΩ
~22kΩ
Insulated

Note 13: Be careful not to get an electric shock from C6512.

Fig. 1-3-12

⑮ MDA board assembly

1. Disconnect four connectors Ⓢ, Ⓣ, Ⓤ, Ⓥ and remove two screws (50, 51). Then, remove the MDA board assembly while shifting it in the directions of the arrows.

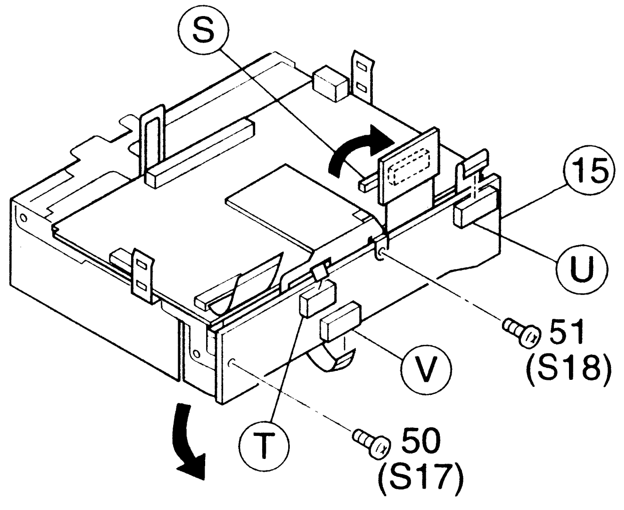
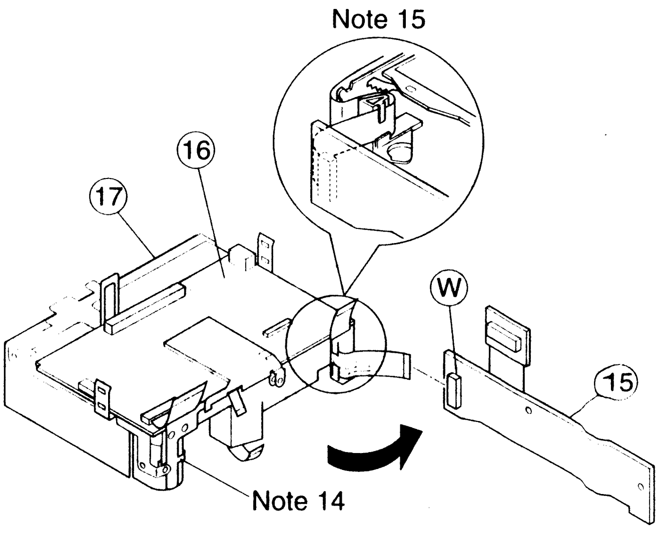

Ⓢ
⑮
Ⓤ
51
(S18)
Ⓥ
Ⓣ
50
(S17)

Fig. 1-3-13A

2. Open the board assembly as shown in the figure below. After disconnecting one connector Ⓦ on the back side of the MDA board assembly, remove the MDA board assembly.


Note 15
⑯
⑰
Ⓦ
⑮
Note 14

Note 14: When reassembling, fasten the FPC wire by the hook of the motor bracket.

Note 15: When reassembling, fasten the FPC wire by the hook of the catcher (T) assembly.

Fig. 1-3-13B

⑯ MAIN1 board assembly

1. Remove one screw (52) first and the shield cover next.
2. Disconnect two connectors Ⓧ, Ⓨ and then remove the MAIN1 board assembly while unhooking it from (L14).

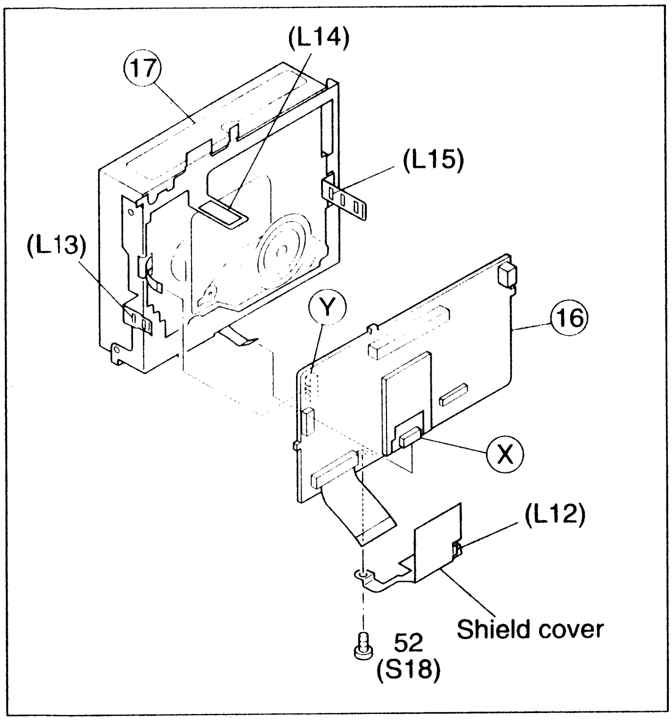
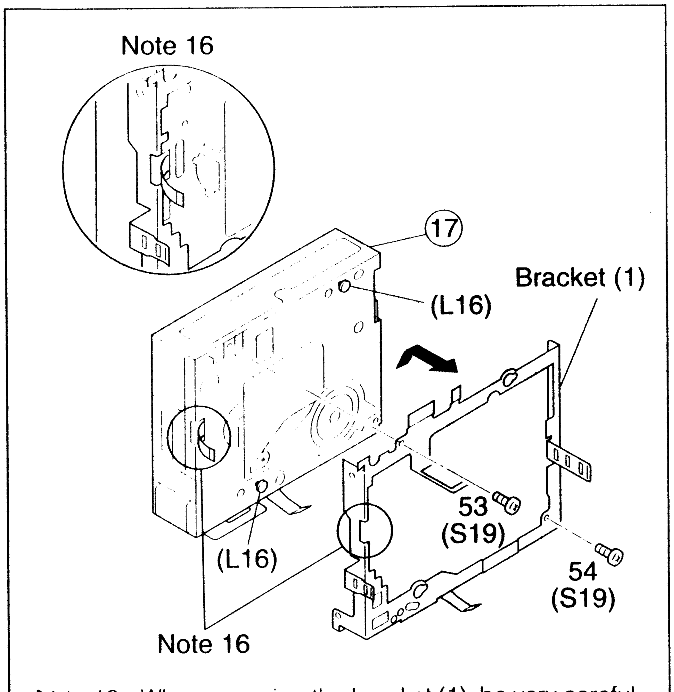

(L14)
⑰
(L15)
(L13)
Ⓨ
⑯
Ⓧ
(L12)
Shield cover
52
(S18)

Fig. 1-3-14

⑰ Mechanism assembly

Remove two screws (53, 54) and then remove the mechanism assembly while shifting it sideways for getting it free from two hooks (L16).


Note 16
⑰
Bracket (1)
(L16)
53
(S19)
54
(S19)
(L16)
Note 16

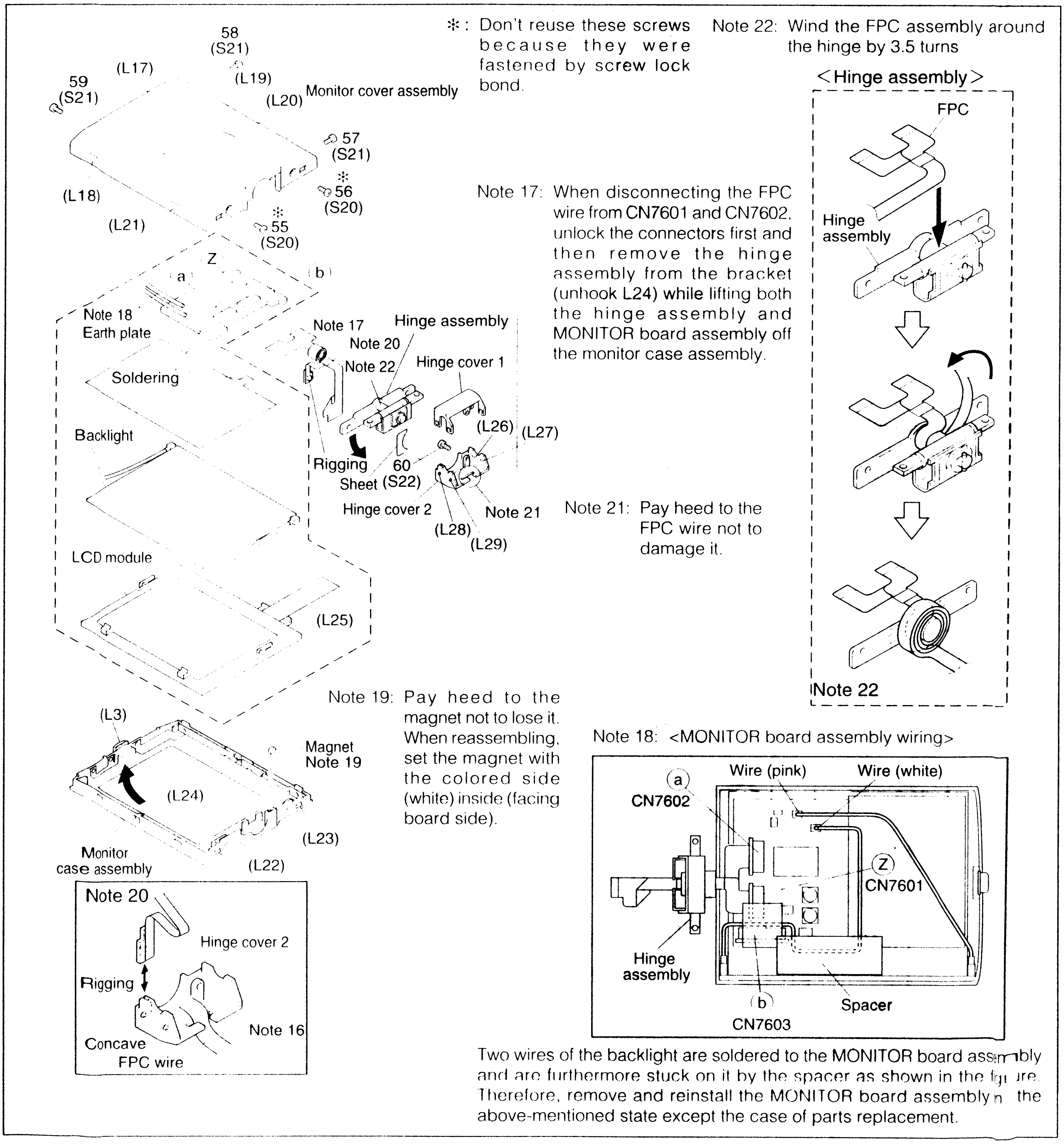
Note 16: When removing the bracket (1), be very careful not to damage the FPC.

Fig. 1-3-15

1.4 DISASSEMBLING/REASSEMBLING LCD MONITOR ASSEMBLY

③ LCD monitor assembly/Hinge assembly

1. Remove five screws (55 to 59) and disengage seven pawls (L17 to L23) on the L3 side (LCD open button) one after another in numerical order. Then, remove the LCD monitor cover assembly.
2. Unlock two connectors (z , a) and remove the hinge assembly while lifting it up together with the MONITOR BL board assembly off the monitor case assembly. Unhook (L24) and then raise the LCD module together with the MONITOR board assembly by one side as shown in the figure so that (L25) is disengaged from the bracket. Then, remove the MONITOR board assembly and LCD module together with.
3. Turn the hinge assembly at an angle of 90° in the direction of the arrow in order to peel off the sheet and remove one screw (60). Then remove the hinge cover 1 unhooking four pawls (L26 to L29) on both sides. Next, remove the hinge cover 2 from the hinge assembly and remove the rigging from the concave in the hinge cover 2. Last, pull the hinge cover 2 out of the FPC wire.


58
(S21)
59
(S21)
(L17)
(L19)
(L20)
Monitor cover assembly
57
(S21)
56
(S20)
55
(S20)
(L18)
(L21)
Z
a
b
Note 18
Earth plate
Soldering
Backlight
LCD module
Note 17
Hinge assembly
Note 20
Note 22
Hinge cover 1
(L26)
(L27)
Rigging
60
Sheet (S22)
Hinge cover 2
Note 21
(L28)
(L29)
(L25)
(L3)
(L24)
Magnet
Note 19
(L23)
Monitor
case assembly
(L22)
Note 20
Hinge cover 2
Rigging
Concave
FPC wire
Note 16
<Hinge assembly>
FPC
Hinge
assembly
Note 22
Wire (pink)
Wire (white)
a
CN7602
Z
CN7601
Hinge
assembly
b
CN7603
Spacer

※: Don't reuse these screws because they were fastened by screw lock bond.

Note 22: Wind the FPC assembly around the hinge by 3.5 turns

Note 17: When disconnecting the FPC wire from CN7601 and CN7602, unlock the connectors first and then remove the hinge assembly from the bracket (unhook L24) while lifting both the hinge assembly and MONITOR board assembly off the monitor case assembly.

Note 21: Pay heed to the FPC wire not to damage it.

Note 19: Pay heed to the magnet not to lose it. When reassembling, set the magnet with the colored side (white) inside (facing board side).

Note 18: <MONITOR board assembly wiring>

Two wires of the backlight are soldered to the MONITOR board assembly and are furthermore stuck on it by the spacer as shown in the figure. Therefore, remove and reinstall the MONITOR board assembly in the above-mentioned state except the case of parts replacement.

Fig. 1-4-1

1.5 DISASSEMBLING/REASSEMBLING ELECTRONIC VIEWFINDER ASSEMBLY

④ Disassembling/reassembling electronic viewfinder assembly

For disassembling the electronic viewfinder assembly, first divide it into two sections, namely, the section I: case assembly, and the section II: holder (LCD/switch) and hinge assembly.

1.5.1 Dividing into two sections - Section (I): case assembly, and Section (II): holder (LCD/switch) and hinge assembly

1. Remove four screws (61 to 64).
2. Draw out the case assembly and bend it in the direction of the arrow to unhook it from (L30). Then, the case assembly (section I) can be separated from the holder (LCD/switch) and hinge assembly (section II).

1.5.2 Disassembling section (I): case assembly

1. Remove the eyecup.
2. Remove six screws (65 to 70) and the case (for bottom).
3. Remove two screws (71, 72) and the lens assembly.

1.5.3 Disassembling section (II): holder (LCD/switch) and hinge assembly

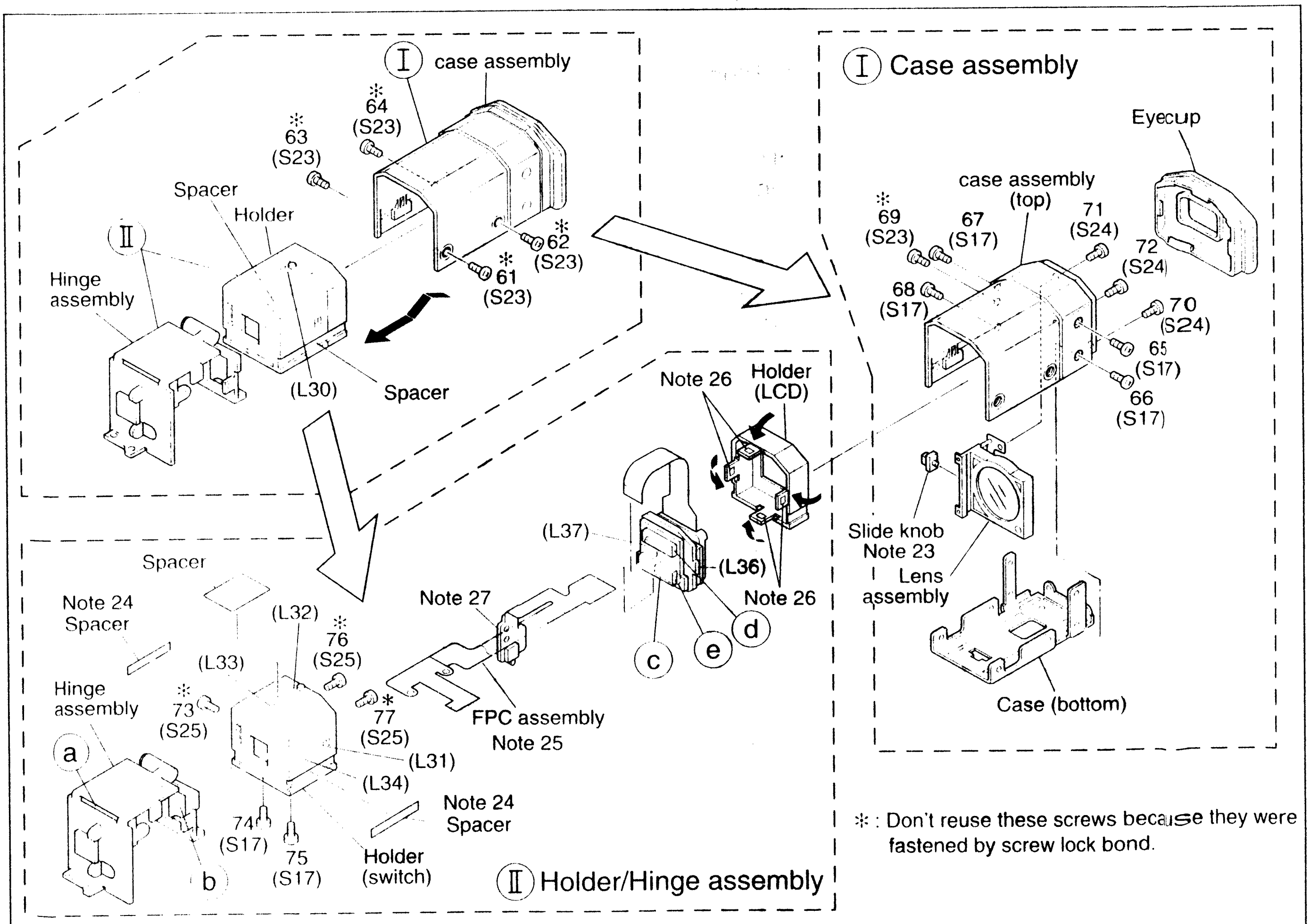
1. Peel off the spacers on both sides.

Note 24: Spacers that were once removed must not be reused as a rule. When removing spacers, prepare new ones for replacement.

2. Draw the FPC assembly out of the part (a) of the hinge assembly.

Note 25: Carefully draw the FPC assembly not to damage it.

3. After removing the spacers, remove the holder (LCD) while unhooking it from four pawls (L31 to L34), and then disconnect the FPC assembly from CN7650.
4. Remove five screws (73 to 77), and draw the FPC assembly out of the part b of the hinge assembly while removing the hinge assembly.
5. Draw the FPC assembly from the inside of the holder (switch).


(I) case assembly
※ 64 (S23)
※ 63 (S23)
Spacer
Holder
(II)
Hinge assembly
※ 62 (S23)
※ 61 (S23)
(L30)
Spacer
(I) Case assembly
Eyecup
case assembly (top)
※ 69 (S23)
67 (S17)
71 (S24)
72 (S24)
68 (S17)
70 (S24)
65 (S17)
66 (S17)
Note 26
Holder (LCD)
(L37)
(L36)
Note 26
Note 27
c
e
d
Slide knob
Note 23
Lens assembly
Case (bottom)
Spacer
Note 24 Spacer
(L32)
※ 76 (S25)
(L33)
Hinge assembly
※ 73 (S25)
a
※ 77 (S25)
FPC assembly
Note 25
(L31)
(L34)
Note 24 Spacer
74 (S17)
75 (S17)
b
Holder (switch)
(II) Holder/Hinge assembly

※ : Don't reuse these screws because they were fastened by screw lock bond.

Note 23: Pay heed to the slide knob not to lose it.
Note 26: When removing the holder, be very careful not to damage the pawls.
Note 27: Fasten the switch (reinforcement part) of the FPC assembly together with the hinge assembly by the screw (73).

Fig. 1-5-1

1.6 DISASSEMBLY/ASSEMBLY OF OP BLOCK

1.6.1 Replacement of CCD image sensor

Note:
- *Pay the most careful attention to the transparent glass, optical filter and master lens of the CCD image sensor not to get them soiled, dusty or damaged.*
  If some of them gets dirty with fingerprints, etc. wipe it out with the super cleaning cloth, silicone paper or clean chamois, etc.
- *The CCD image sensor is occasionally shipped from the factory as an orange-colored protection seal is applied onto its transparent glass. If so, leave the protection seal as it is and remove it just before setting the new CCD image sensor in the OP block for replacement.*

1.6.2 How to remove CCD image sensor

1. Remove two screws (78, 79) and then remove the bracket (OP).
2. Unsolder the shield case (CCD) by two points and remove it.
3. Remove two screws (80, 81) fixing the CCD base, and remove the component parts enclosed by a broken line in the figure from the OP block assembly. At that time, pay heed to the optical low-pass filter, spacer rubber, etc. not to drop them.

1.6.3 How to reassemble CCD image sensor to OP block assembly

1. Set the spacer rubber on the CCD side of the optical low-pass filter, and then incorporate the optical low-pass filter together with the spacer rubber into the OP block assembly.
2. Fit the CCD base assembly to the OP block assembly with care not to move the spacer rubber.
3. Fasten the CCD base assembly and optical low-pass filter together with the spacer rubber by two screws (80, 81).
4. Solder the shield case (CCD) to the OP block by two points.
5. Fit the bracket (OP) to the OP block and fasten it with two screws (78, 79).

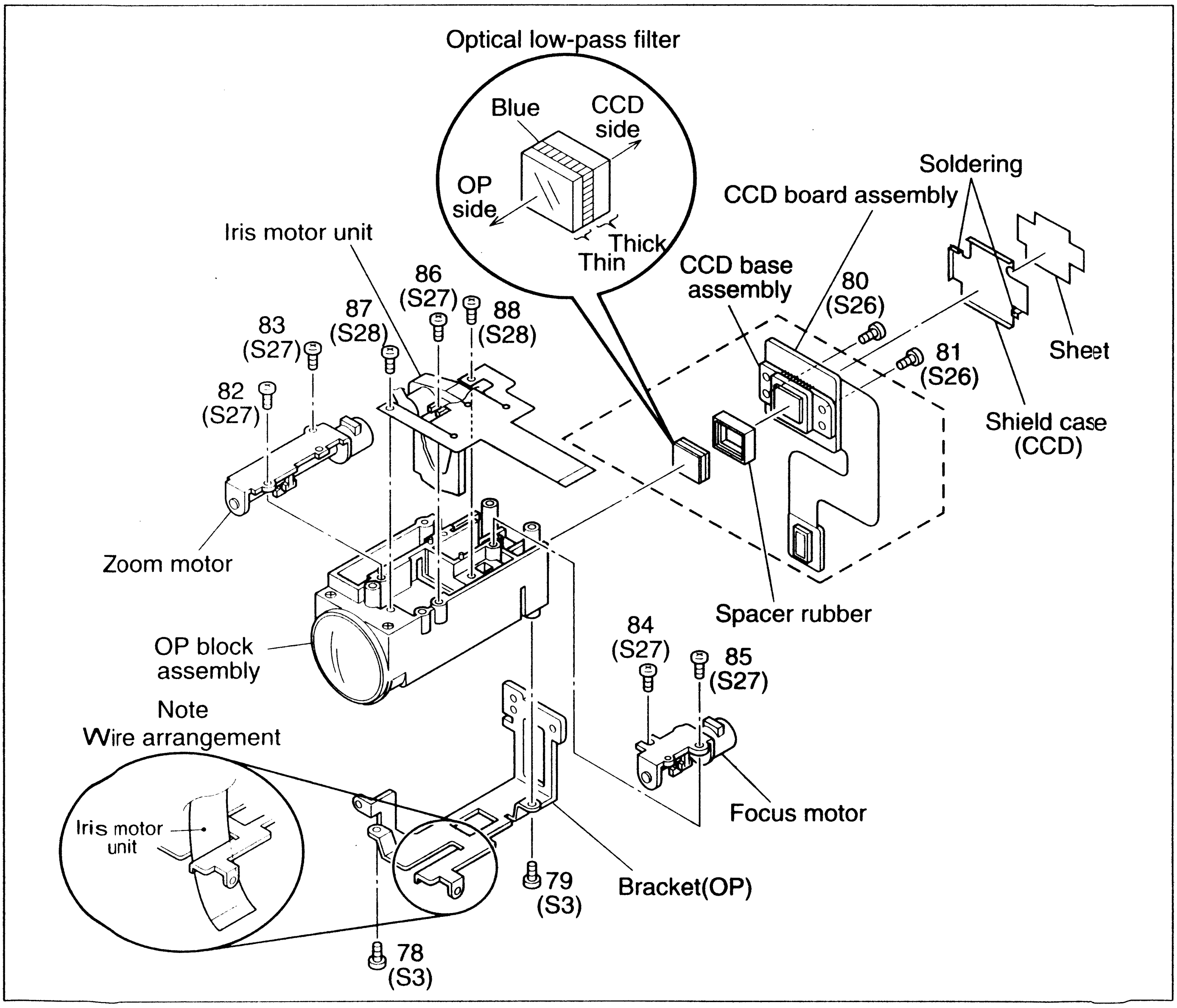

Optical low-pass filter
Blue
CCD side
OP side
Thick
Thin
Iris motor unit
86 (S27)
87 (S28)
88 (S28)
83 (S27)
82 (S27)
Zoom motor
OP block assembly
Note
Wire arrangement
Iris motor unit
Soldering
CCD board assembly
CCD base assembly
80 (S26)
81 (S26)
Sheet
Shield case (CCD)
Spacer rubber
84 (S27)
85 (S27)
Focus motor
79 (S3)
Bracket(OP)
78 (S3)

Fig. 1-6-1

LIST <DISASSEMBLY>

▨ : Connector of removed component during disassembly

Order	Fig. No.	Connector	Connected Point					Number of Pins	Class	Patch cord
1	1-3-1	Ⓐ	MAIN2 PWB	CN210	←→	W/B	-	3PIN	WIRE	NC
2	1-3-1	Ⓑ	MAIN2 PWB	CN207	←→	SHUTTER	-	8PIN	FPC	NC
3	1-3-1	Ⓒ	MAIN1 PWB	CN107	←→	MIC UNIT	-	3PIN	WIRE	DIRECT
4	1-3-2	Ⓓ	JA/D-IF PWB	CN602	←→	SPEAKER	-	2PIN	WIRE	NC
5	1-3-2	Ⓔ	MAIN2 PWB	CN206	←→	MONITOR PWB	CN7201	51PIN	FPC	YTU94109-51(CHANGE)
6	1-3-3	Ⓕ	MONITOR PWB	CN7203	←→	MONI BL/MONI RVS	CN7601,CN7602	33PIN	FPC	YTU94109-33 / YTU94129A-33
7	1-3-4	Ⓖ	MONITOR PWB	CN7202	←→	VF SW/VF SUB	CN7650	22PIN	FPC	YTU94077-22 / YTU94074-22
8	1-3-5	Ⓗ	MONITOR PWB	CN7204	←→	DECK OPE	-	6PIN	FPC	DIRECT
9	1-3-6	Ⓙ	MAIN1 PWB	CN106	←→	JA/D-IF PWB	CN601	57PIN	FPC	YTU94109-57(CHANGE)
10	1-3-7	Ⓚ	MAIN2 PWB	CN204	←→	REG PWB	CN301	100PIN	B-B	YTU94126B-100
11	1-3-7	Ⓛ	REG PWB	CN302	←→	BATTERY	-	5PIN	WIRE	DIRECT
12	1-3-8	Ⓜ	MAIN2 PWB	CN203	←→	OP BLOCK	-	22PIN	FPC	DIRECT
13	1-3-8	Ⓝ	MAIN2 PWB	CN202	←→	CCD(OP BLOCK)	CN801	30PIN	B-B	DIRECT
14	1-3-9	Ⓞ	MAIN2 PWB	CN205	←→	STROBE PWB	CN502	22PIN	FPC	NC
15	1-3-9	Ⓟ	MAIN2 PWB	CN208	←→	OPE UNIT	-	15PIN	FPC	YTU94077-15 / YTU94074-15
16	1-3-9	Ⓠ	MAIN1 PWB	CN102	←→	MAIN2 PWB	CN201	120PIN	B-B	YTU94130A-120
17	1-3-10	Ⓡ	MAIN1 PWB	CN105	←→	STROBE PWB	CN501	13PIN	FPC	YTU94077-13(CHANGE)
18	1-3-13A	Ⓢ	MAIN1 PWB	CN104	←→	MDA PWB	CN405	40PIN	B-B	DIRECT
19	1-3-13A	Ⓣ	MDA PWB	CN404	←→	LOADING MOTOR	-	6PIN	FPC	DIRECT
20	1-3-13A	Ⓤ	MDA PWB	CN402	←→	CAPSTAN MOTOR	-	18PIN	FPC	DIRECT / YTU94077-18 / YTU94074-18
21	1-3-13A	Ⓥ	MDA PWB	CN403	←→	DRAM MOTOR	-	11PIN	FPC	DIRECT / YTU94077-11 / YTU94074-11
22	1-3-13B	Ⓦ	MDA PWB	CN401	←→	SENSOR	-	15PIN	FPC	YTU94077-15 / YTU94074-15
23	1-3-14	Ⓧ	MAIN1 PWB	CN101	←→	MECHA(HEAD)	-	8PIN	FPC	DIRECT
24	1-3-14	Ⓨ	MAIN1 PWB	CN103	←→	ROTARY ENCODER	-	6PIN	FPC	YTU94077-6 / YTU94074-6 / DIRECT
25	1-4-1	Ⓩ	MONITOR BL	CN7601	←→	HINGE	-	16PIN	FPC	DIRECT
26	1-4-1	ⓐ	MONITOR BL	CN7602	←→	HINGE	-	16PIN	FPC	DIRECT
27	1-4-1	ⓑ	LCD PANEL	CN7603	←→	LCD PANEL	-	24PIN	FPC	DIRECT
28	1-5-1	ⓒ	VF SUB PWB	CN7650	←→	FPC ASSY	-	20PIN	FPC	DIRECT
29	1-5-1	ⓓ	VF SUB PWB	CN7651	←→	LCD PANEL	-	16PIN	FPC	DIRECT
30	1-5-1	ⓔ	VF SUB PWB	CN7652	←→	VF BL	CN7670	20PIN	B-B	DIRECT
31	–		MAIN1 PWB	CN108	←→	JIG CONN.	-	18PIN	WIRE	YTU93082D (JIG CONNECTOR)
32	–		REG PWB	CN303	←→	DC IN	-	2PIN	WIRE	YTU94143A (POWER SUPPLY JIG)

Table 1-7-1

TYPE Ⓘ

The state that the MDA board assembly is mounted on the mechanism assembly and the MAIN1 board assembly is expanded.

Note: Connect the wire of the W/B board to CN210 of the MAIN2 board depending on the situation.

TYPE Ⓘ

: The state that the MAIN1 board assembly is mounted on the back of the mechanism assembly and the MDA board assembly is expanded.

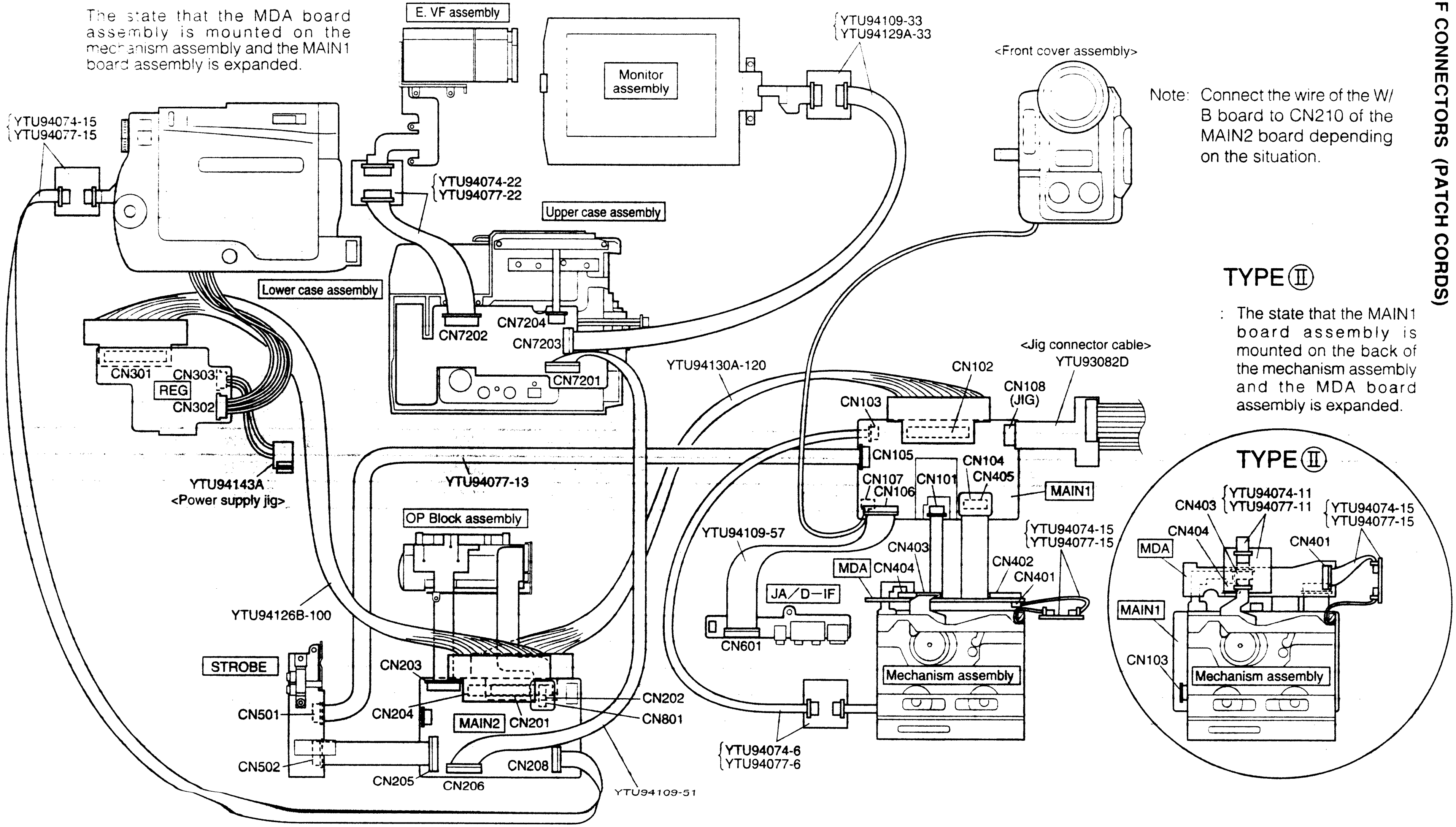

E. VF assembly
Monitor assembly
YTU94109-33
YTU94129A-33
<Front cover assembly>
YTU94074-15
YTU94077-15
YTU94074-22
YTU94077-22
Upper case assembly
Lower case assembly
CN7204
CN7202
CN7203
CN7201
CN301
CN303
REG
CN302
YTU94143A
<Power supply jig>
YTU94130A-120
<Jig connector cable>
YTU93082D
CN102
CN108
(JIG)
CN103
CN105
CN104
CN107
CN101
CN405
CN106
MAIN1
YTU94077-13
OP Block assembly
YTU94109-57
CN403
MDA
CN404
JA/D-IF
CN601
YTU94074-15
YTU94077-15
CN402
CN401
Mechanism assembly
YTU94126B-100
STROBE
CN501
CN502
CN203
CN204
MAIN2
CN201
CN202
CN801
CN205
CN206
CN208
YTU94109-51
YTU94074-6
YTU94077-6
TYPE Ⓘ
CN403
YTU94074-11
YTU94077-11
YTU94074-15
YTU94077-15
CN404
CN401
MDA
MAIN1
CN103
Mechanism assembly

Fig.1-8-1

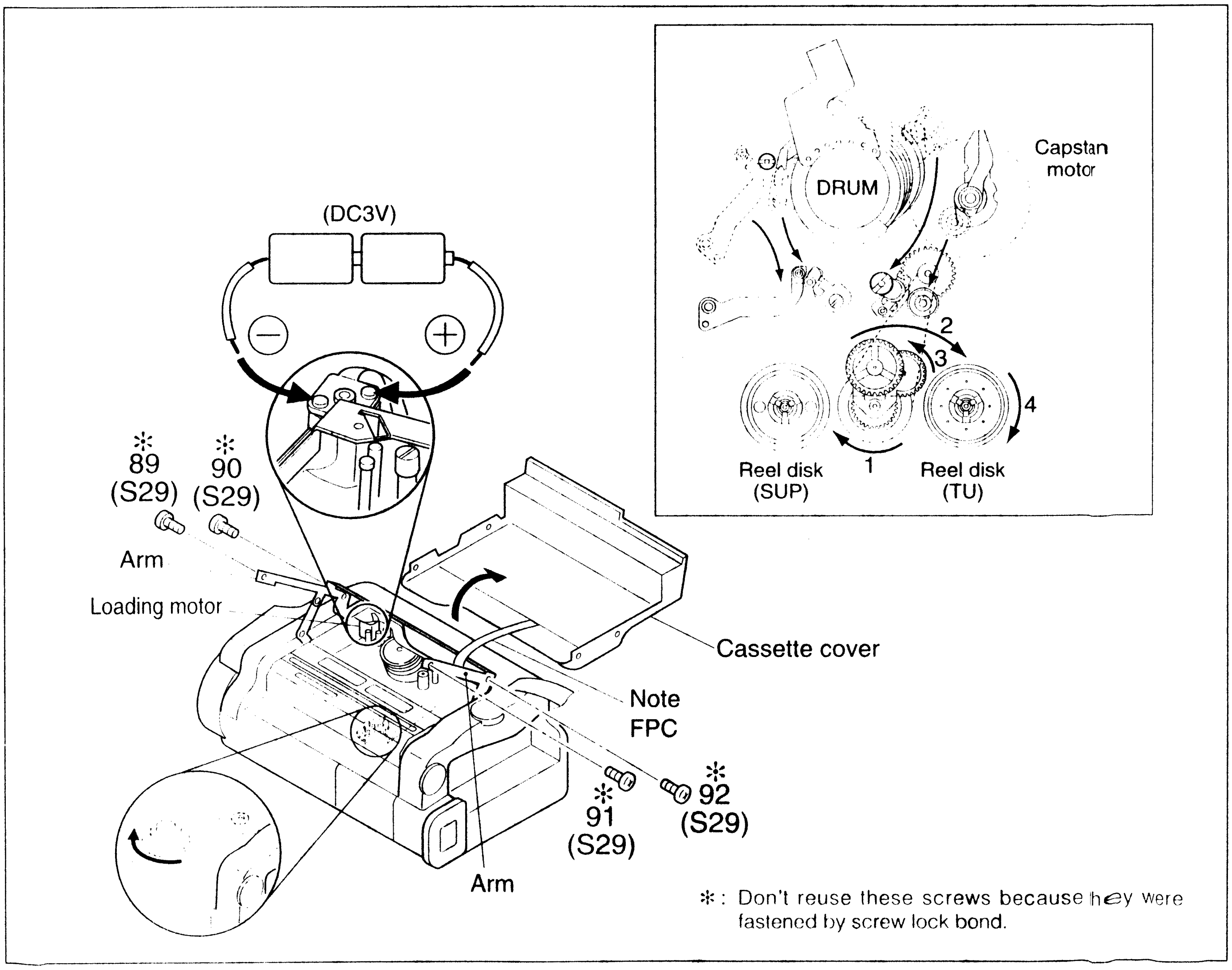
1.9 HOW TO TAKE OUT TAPE

In the event that the cassette tape cannot be ejected when it is loaded in the mechanism, take it out according to the following procedure. However, keep it in mind that this procedure is an emergency measure to the end and it can be applied to the case that the tape cannot be ejected not by a mechanism failure such as out of phase, etc. but by an electrical failure.
From viewpoints of the workability and reliability, it is recommended to take out the tape after removing all exterior parts.

1. Disconnect the power supply (battery, DC cord) from the set.
2. Open the cassette cover and remove four screws (89 to 92).

Note: Since screw lock bond had been applied to the tip of the respective screws, don't reuse the screws if they were once removed. Be sure to use new screws when reassembling.
In the case the cabinet part (lower case assembly) has been removed, it is not required to remove these screws.

3. Remove the cassette cover from the arms and raise the arms so that you can proceed in the tape removal job. At that time, pay careful attention to the FPC not to damage it.
4. Connect 3 V DC to the poles on the top of the loading motor to slide the slide deck assembly to the front side, and stop the motor when both the pole base assemblies come into the unloading status inside the tape. Since the tape is not wound up and remains as it was, pay heed to the tape neither to damage it nor to soil it with grease, etc. If both the pole base assemblies continue unloading inside the tape, the mechanism enters the eject mode and the cassette housing assembly is accordingly lifted up. If it occurs, it may causes damage to the tape because the exposed part of the tape may be caught in the cassette lid. It is recommended to hold the cassette lid open with adhesive tape or the like to prevent it from shutting even when the cassette housing assembly is lifted up.
5. Turn the center gear assembly with a precision tool having a sharp-pointed tip (chip IC replacement jig, etc.) in the direction of the arrow to wind up the tape. At that time, be careful not to damage the tape.
If the tape cannot be wound up though the center gear assembly is turned in the indicated direction, the idler arm assembly is positioned not to engage with the reel disk assembly. In such the case, fine adjust the mechanism mode by shifting (slightly return the mechanism mode to the loading direction).
6. Confirming that the tape is completely wound up, continue unloading until the mechanism reaches the eject position and then take out the tape.
7. Check the manually wound part of the tape if there is grease or other soil remaining on it or not. At the same time, check the mechanism assembly, particularly the tape transport system, if there is something soiled with grease, etc. or not.



✻ : Don't reuse these screws because they were fastened by screw lock bond.

Fig. 1-9-1

Screw Management Table

<Cabinet part>

Part No. →	①							②/③														
Removing order of screw →	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Place to stick screw →	*											*	*						*	*		
Reference drawing →	1-3-1							1-3-2														
Screw tightening torque →	I							I														

Part No. →	③		④		⑤			⑥	⑦	⑧	⑨		⑩	⑪							
Removing order of screw →	23	24	25	26	27	28	29	30	31	–	32	33	–	34	35	36	37	38	39	40	41
Place to stick screw →	*	*						*		–	*	*	–	*	*	*			*	*	*
Reference drawing →	1-3-3		1-3-4		1-3-5				1-3-6	1-3-7	1-3-8		1-3-9	1-3-10							
Screw tightening torque →	II		I		I				I	–	I		–	I							

Part No. →	⑫				⑬	⑭			⑮			⑯	⑰	
Removing order of screw →	42	43	44	45	46	47	48	49	51	51	–	52	53	54
Place to stick screw →	*										–			
Reference drawing →	1-3-11					1-3-12			1-3-13A		1-3-13B	1-3-14	1-3-14	
Screw tightening torque →	I					III	II	I	I			I	I	

	③					
	55	56	57	58	59	60
	*	*				
	1-4-1					
	III					

Part No. →	④																
Removing order of screw →	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
Place to stick screw →	*	*	*						*				*			*	*
Reference drawing →	1-5-1																
Screw tightening torque →	III																

Part No. →	⑨										
Removing order of screw →	78	79	80	81	82	83	84	85	86	87	88
Place to stick screw →											
Reference drawing →	1-6-1										
Screw tightening torque →	I	I	IV	IV	IV	IV	IV	IV	IV	IV	IV

	–			
	89	90	91	92
	*	*	*	*
	1-9-1			
	III			

Notes

1) * : Screw which screw lock bond is applied to. Don't reuse any screw marked with * if it was once removed. Be sure to replace it with new one each time screwing it.

2) Pay careful attention to tightening torque for each screw.

I : 0.075N·m (0.75kgf·cm)
II : 0.15N·m (1.5kgf·cm)
III : 0.07N·m (0.7kgf·cm)
IV : 0.12N·m (1.2kgf·cm)

Table 1-10-1

1.11 REGARDING STROBE LIGHT EMITTING CAPACITOR

Warning against electric shock!!

If the strobe light emitting capacitor (C6512 on the STROBE board assembly) is charged, it may cause an electric shock during disassembling. Before proceeding to inspection and service of the set, check the charge status of this capacitor. When it has been charged, be sure to discharge it forcibly before proceeding to service job.
For discharging method, refer to Fig. 1-3-12 on page 1-8.

1.12 PRECAUTIONS ON HANDLING THE LITHIUM SECONDARY BATTERY

This unit is equipped with a button-type lithium secondary battery. Improper handling of this battery may cause heat to be generated, damaged, fires or leakage. Always follow the precautions below.

① Be sure not to shortcircuit, disassemble, deform and heat it.
② Carefully set the lithium battery so that its positive and negative poles are correctly connected respectively.
③ Don't solder anything directly to the lithium battery.
④ When replacing the lithium battery, be sure to do it with correct one referring to the part number appearing in the parts list of the manual.
⑤ When keeping the lithium battery, avoid direct sunlight, high temperature and high humidity.
⑥ When replacing the lithium battery, avoid using metallic tools such as tweezers, etc. for picking it up because such the tool may cause shortcircuit.
⑦ When disposing the lithium battery, cover the electrodes with adhesive tape or the like for insulation.

1.13 EMERGENCY DISPLAY

When there is something abnormal with this Digital VideoMovie during operation, an error number (Example: E01) representing the trouble appears on the LCD monitor.

LCD DISPLAY	Emergency mode	Symptom	Surveillance mode	Mode to shif
E01	LOADING	The mechanism does not shift to the next mode (in the LOADING direction) though it has passed more than 4 seconds after the mechanism was required to do it.	LOADING	Mode continues
E02	UNLOADING	The mechanism does not shift to the next mode (in the UNLOADING direction) though it has passed more than 4 seconds after the mechanism was required to do it.	UNLOADING	Mode continues
E03	REEL FG	No REEL FG (TU or SUP) signal is input for more than 4 seconds in the mode that the reel must rotate.	When reel is rotating.	STOP
E04	DRUM FG	No DRUM FG signal is input for more than 3 seconds in the mode that the drum motor must rotate.	When drum is rotating.	STOP
–	–	–	–	–
E06	CAPSTAN FG	No CAPSTAN FG signal is input for more than 1.5 seconds in the mode that the capstan motor must rotate (the pinch roller is pressed to the capstan).	When capstan is rotating (pinch roller is pressed to it).	STOP

Note : Only the operation to turn on/off the power is effectual in any emergency mode.

SECTION 2
MECHANISM ADJUSTMENT

2.1 PRELIMINARY REMARKS ON ADJUSTMENT AND REPAIR

2.1.1 Precautions

1. When fastening parts, pay careful attention to the tightening torque of each screw. Unless otherwise specified, tighten a screw with the torque of 0.04 N·m (0.4 kgf·cm).
2. Be sure to disconnect the set from the power supply before fastening and soldering parts.
3. When disconnecting/connecting wires, be careful not to get them and their connectors damaged. (Refer to the Section 1.)
4. When replacing parts, be very careful neither to damage other parts nor to fit wrong parts by mistake.

2.1.2 Necessary jigs

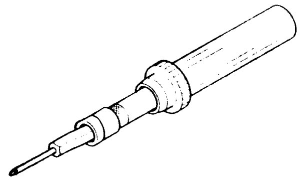
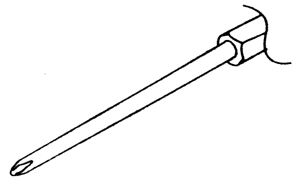
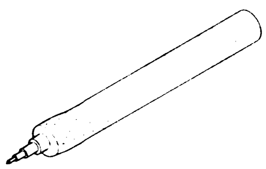
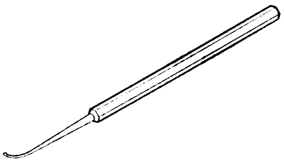
1 Torque driver YTU94088	2 Bit YTU94088-003
	
3 Slit washer fitting jig YTU94121A	4 Chip IC replacement jig PTS40844-2
	

Fig. 2-1-1

2.1.3 Notes on disassembling/reassembling procedure

The disassembling procedure table (Table 2-2-2 on page 2-5, a part of the table is shown below for reference) shows the procedure to disassemble/reassemble mechanism parts. Carefully read the following explanation before starting actual disassembling/reassembling work. The item numbers (circled numbers) in the following explanation correspond to those appearing under respective columns of the table.

① : Circled numbers appearing in this column indicate the order to remove parts. When reassembling, follow these numbers in the reverse order. Circled numbers in this column correspond to those appearing in drawings of this section.

② : This column shows part names corresponding to circled numbers in the left column.

③ : The symbol (T or B) appearing in this column shows the side which the objective part is mounted on.
T = the upper side, B = the lower side

④ : Symbols appearing in this column indicate drawing numbers.

⑤ : This column indicates parts and points such as screws, washers, springs, and others to be removed/fitted for disassembling/reassembling the mechanism. Besides such the parts, this column occasionally indicates working points.

P = Spring
W = Washer
S = Screw
* = Lock (L), soldering (SD), shield, connector (CN), etc.

Example
- Remove (W1) = Washer W1.
- * Remove the solder at (SD1) = Point SD1.
- * Disconnect (A) = Connector (A).

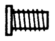
⑥ : Numbers in this column represent the numbers of notes in the text. For example, "1" means "Note 1".
(For parts that need phase adjustment after reassembling, refer to "2.2.7 Check and adjustment of mechanism phase".)

⑦ : This column indicates required after-disassembling/-reassembling work such as phase adjustment or mechanism adjustment.

2.1.4 Screws and washers used in mechanism

Table 2-1-1 shows screws and washers used in the mechanism by the part numbers with their respective symbols, shapes and colors.

When disassembling/reassembling the mechanism, be careful not to make any mistake in removing/refitting screws and washers.

Symbol	Shape	Parts No.
(S1)		YQ43893-4
(S2)		YQ43893
(S3)		YQ43893-2
(S4)		LY30018-037A

Symbol	Shape	Parts No.
W1		YQ44246
W2		YQ44246-2

Table 2-1-1

Step	Part Name		Fig.	Point	Note	Remarks
(A)	Cassette housing assembly	T	M1	3(S1),(L1)-(L4)	1,28,29,30	Adjustment
①	Reel disk (SUP) assembly	T	M2	(W1)	2,3	
②	Reel disk (TU) assembly	T	M2	(W1)	2,3	
↑ ①	↑ ②	↑ ③	↑ ④	↑ ⑤	↑ ⑥	↑ ⑦

2.2 DISASSEMBLING/REASSEMBLING MECHANISM ASSEMBLY

2.2.1 General statement

The mechanism should generally be disassembled/reassembled in the EJECT mode (ASSEMBLY mode). (Refer to Fig. 2-2-1.)
However, when the mechanism is removed from the main body, it is set in the STOP mode. Therefore, it is required to shift the mechanism mode from the STOP mode to the EJECT mode after the mechanism is removed from the main body. In such the case, supply 3 V DC to the electrode on the top of the loading motor to enter the mechanism mode into the EJECT mode.

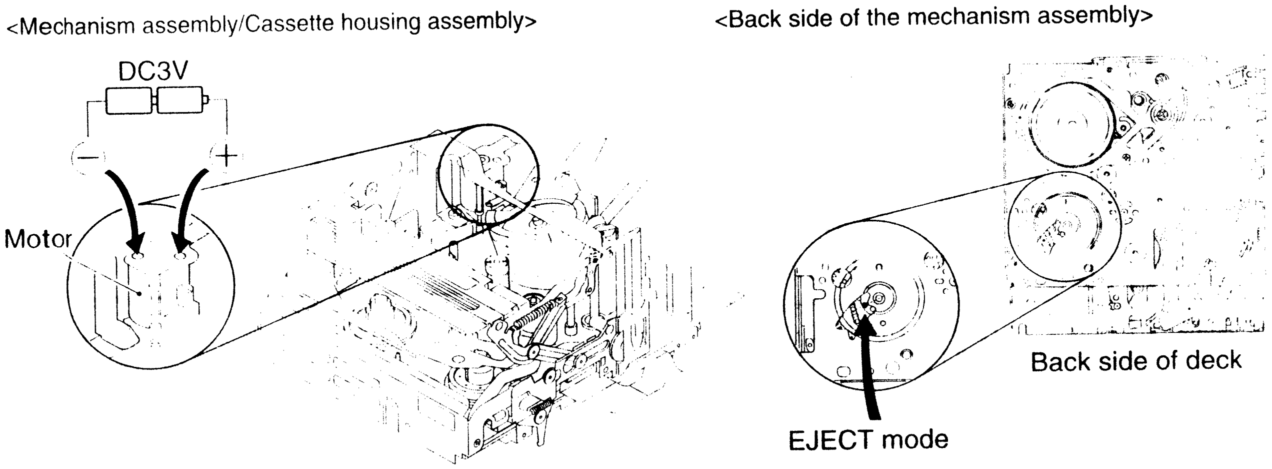

<Mechanism assembly/Cassette housing assembly>
DC3V
(−)
(+)
Motor
<Back side of the mechanism assembly>
Back side of deck
EJECT mode

Fig. 2-2-1

2.2.2 Explanation of mechanism mode

The mechanism mode of this model is classified into six modes as shown in Table 2-2-1. Each mechanism mode can be distinguished from others by the relative position of "●" mark on the sub cam gear to the inner or outer protrusion on the main deck.
Refer to Fig. 2-2-2 to 2-2-7 below.
The EJECT mode, C IN mode and SHORT FF mode should be recognized by the relative position of the "●" mark to the inner protrusion, while the STOP mode, REV mode and PLAY mode should be recognized by that to the outer protrusion.

<EJECT mode>

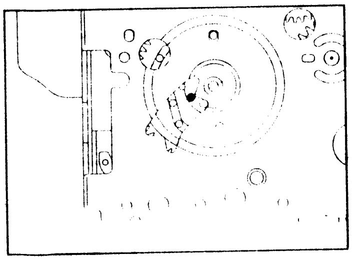


Fig. 2-2-2

<C IN mode>

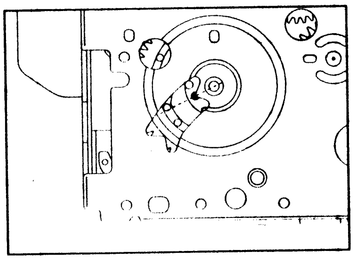


Fig. 2-2-3

<SHORT FF mode>

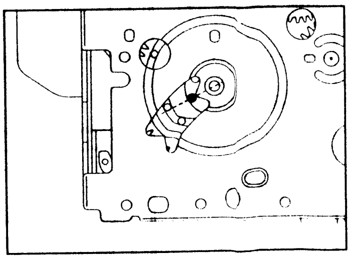


Fig. 2-2-4

<STOP mode>

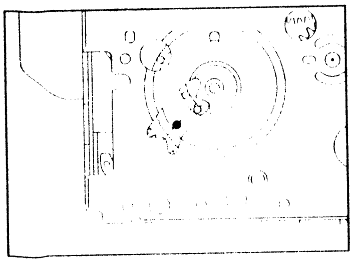


Fig. 2-2-5

<REV mode>

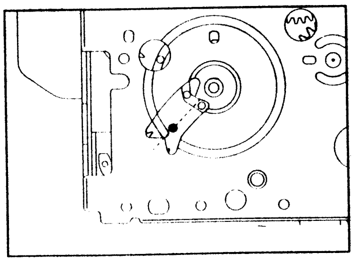


Fig. 2-2-6

<PLAY mode>

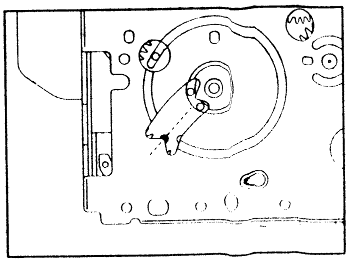


Fig. 2-2-7

2.2.3 Mechanism timing chart

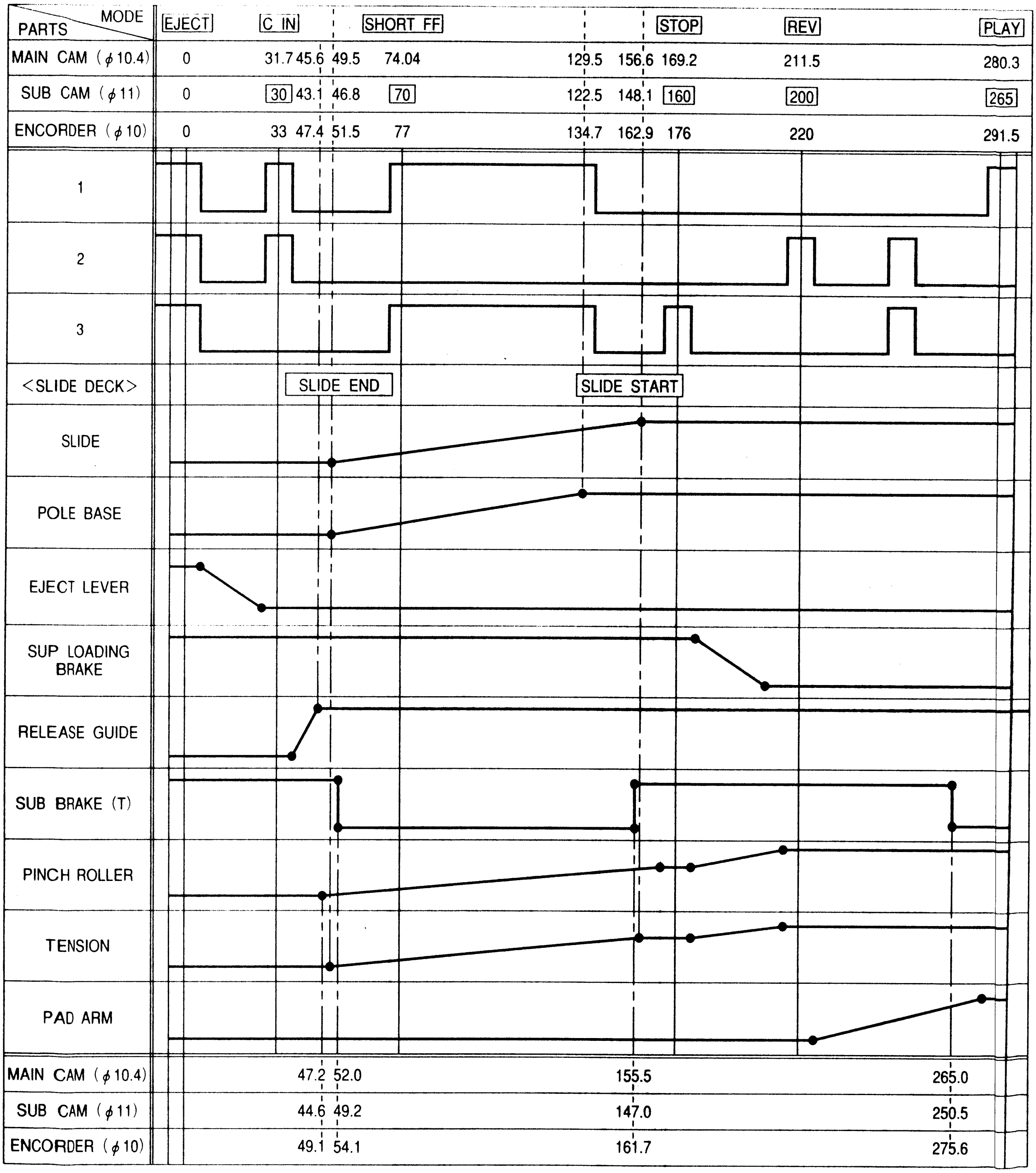

MODE
PARTS
EJECT
C IN
SHORT FF
STOP
REV
PLAY
MAIN CAM (ϕ10.4)
0
31.7
45.6
49.5
74.04
129.5
156.6
169.2
211.5
280.3
SUB CAM (ϕ11)
0
30
43.1
46.8
70
122.5
148.1
160
200
265
ENCORDER (ϕ10)
0
33
47.4
51.5
77
134.7
162.9
176
220
291.5
1
2
3
<SLIDE DECK>
SLIDE END
SLIDE START
SLIDE
POLE BASE
EJECT LEVER
SUP LOADING BRAKE
RELEASE GUIDE
SUB BRAKE (T)
PINCH ROLLER
TENSION
PAD ARM
MAIN CAM (ϕ10.4)
47.2
52.0
155.5
265.0
SUB CAM (ϕ11)
44.6
49.2
147.0
250.5
ENCORDER (ϕ10)
49.1
54.1
161.7
275.6

Table 2-2-1

2.2.4 Disassembling/reassembling mechanism assembly

1. Configuration

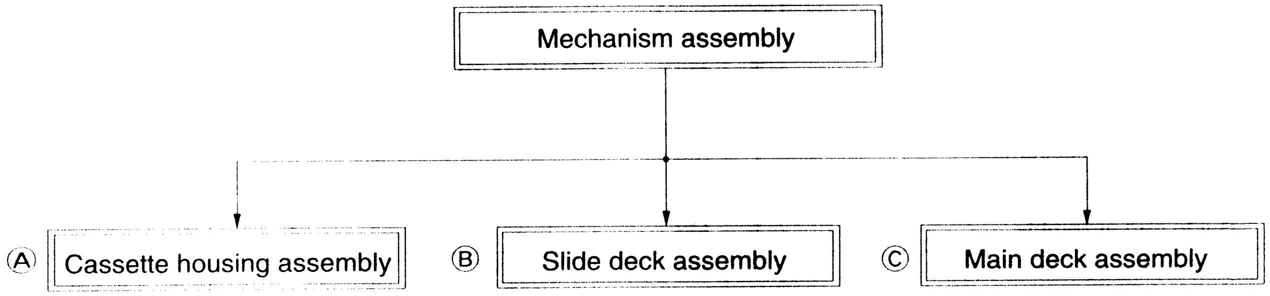
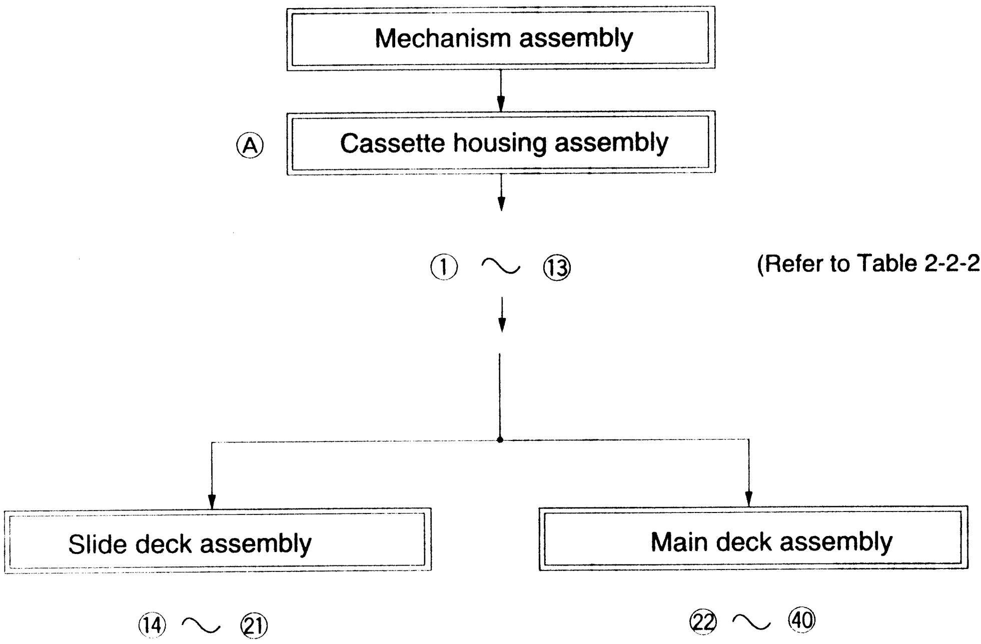

Mechanism assembly
Ⓐ Cassette housing assembly
Ⓑ Slide deck assembly
Ⓒ Main deck assembly

Fig.2-2-8

2. Procedures for disassembly


Mechanism assembly
Ⓐ Cassette housing assembly
① ~ ⑬
Slide deck assembly
Main deck assembly
⑭ ~ ㉑
㉒ ~ ㊵

(Refer to Table 2-2-2)

Fig. 2-2-9

3. Disassembling procedure table

Step	Part Name		Fig.	Point	Note	Remarks
Ⓐ	Cassette housing assembly	T	M1	3(S1),(L1)-(L4)	1,28,29,30	Adjustment
①	Reel disk (SUP) assembly	T	M2	(W1)	2,3	
②	Reel disk (TU) assembly	T	M2	(W1)	2,3	
③	Reel cover assembly	T	M2	(S2),2(S1),(W1)	-	
④	Tension arm assembly	T	M3	(W1)	27	
⑤	Release guide assembly	T	M3	-	4	
⑥	Idler arm assembly	T	M3	(W2)	-	
⑦	Guide arm assembly	T	M3	-	4	
⑧	Pinch roller arm assembly	T	M3	(W1)	-	
⑨	Cleaner arm assembly	T	M4	(L5)	5	
⑩	Slant pole arm assembly	T	M4	(W1),(L6),(P1),(P2)	26	
⑪	Drum assembly	T	M4	3(S2)	6	
⑫	Guide roller (S) assembly	T	M5	(P3)	7,8	
⑬	Rail assembly	T	M5	3(W1)	9,25	
Ⓑ	Slide deck assembly/ C Main deck assembly	T	M6	(W1),(L7)-(L10)	10,24	(Adjustment)
Ⓑ	Slide deck assembly					
⑭	Loading brake assembly	T	M7	(W1),(L11),(P4)	23	Adjustment
⑮	Guide pin (SUPPLY)	T	M7	(S2)	-	
⑯	Pad arm assembly	T	M7	(W1),(L12),(P5)	22	
⑰	Slide guide plate assembly	T	M7	(S3)	21	Adjustment
⑱	Collar	T	M7	-	11	
⑲	Collar	T	M7	-	11	
⑳	Sub brake assembly	T	M7	(W1),(L13),(P6)	20	
㉑	Control plate assembly	T	M7	2(W1),(L14),(P7)	20	
Ⓒ	Main deck assembly					
㉒	Tension lever assembly	T	M8	-	19	
㉓	Slide lever assembly	T	M8	-	18	
㉔	Brake control lever assembly	T	M8	-	17	
㉕	Loading guide	T	M9	(S2)	-	
㉖	Timing belt	T	M9	-	16	
㉗	Center gear assembly	T	M9	-	-	
㉘	Motor bracket assembly	T	M9	2(S2)	12	
㉙	Worm wheel	T	M9	(W1)	-	(Phase adjustment)
㉚	Gear holder	T	M9	(S2)	-	
㉛	Main cam gear	T	M10	(S2)	15	Phase adjustment
㉜	Brake control plate	T	M10	(L15)	15	Phase adjustment
㉝	Rotary encoder	T	M10	(S2),(W1)	13	Phase adjustment
㉞	Connect gear	T	M10	(W1)	-	(Phase adjustment)
㉟	Reel drive pulley assembly	T	M10	(W2)	-	
㊱	Catcher (T) assembly	T	M11	2(S2)	-	
㊲	Capstan motor	T	M11	2(S2)	-	
㊳	Charge arm assembly	T	M11	(W1)	14	
㊴	Sub cam gear	T	M11	(S2)	-	Phase adjustment
㊵	PWB holder	B	M11	2(S2)	-	

Table 2-2-2

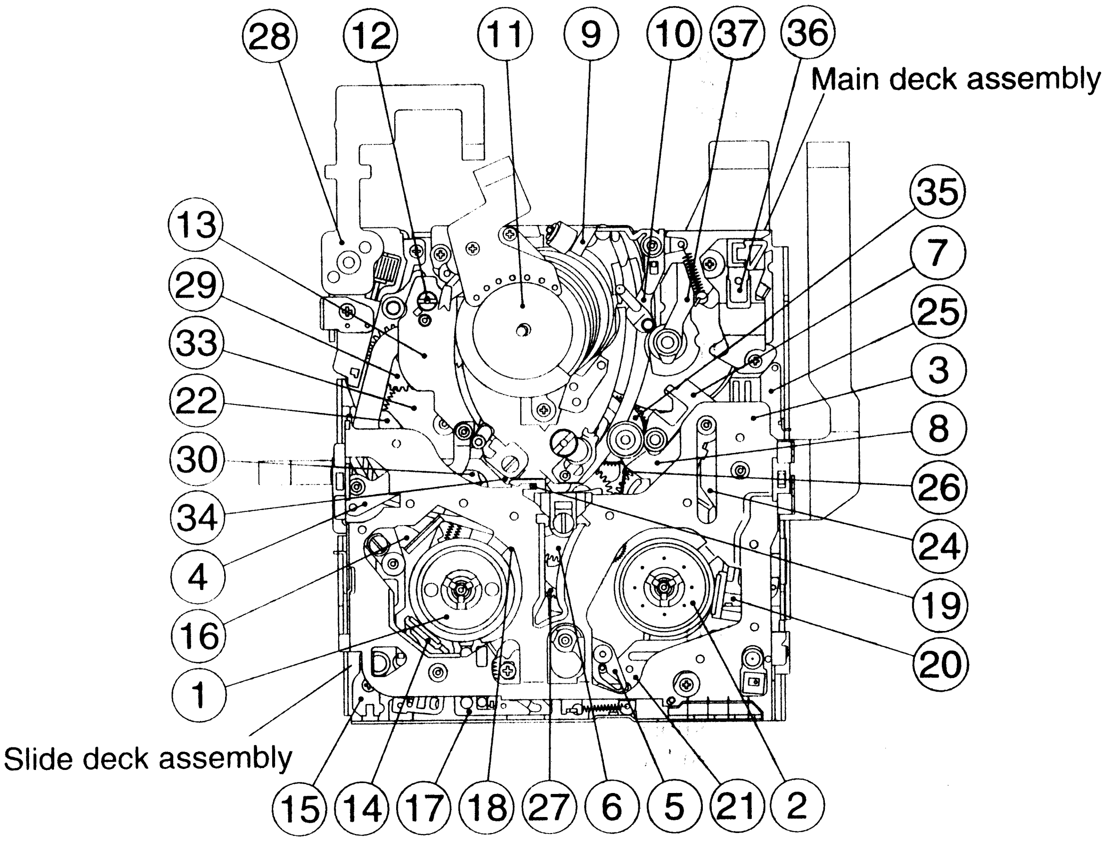

28
12
11
9
10
37
36
Main deck assembly
35
7
25
3
8
26
24
19
20
13
29
33
22
30
34
4
16
1
Slide deck assembly
15
14
17
18
27
6
5
21
2

Fig. 2-2-10 Top view

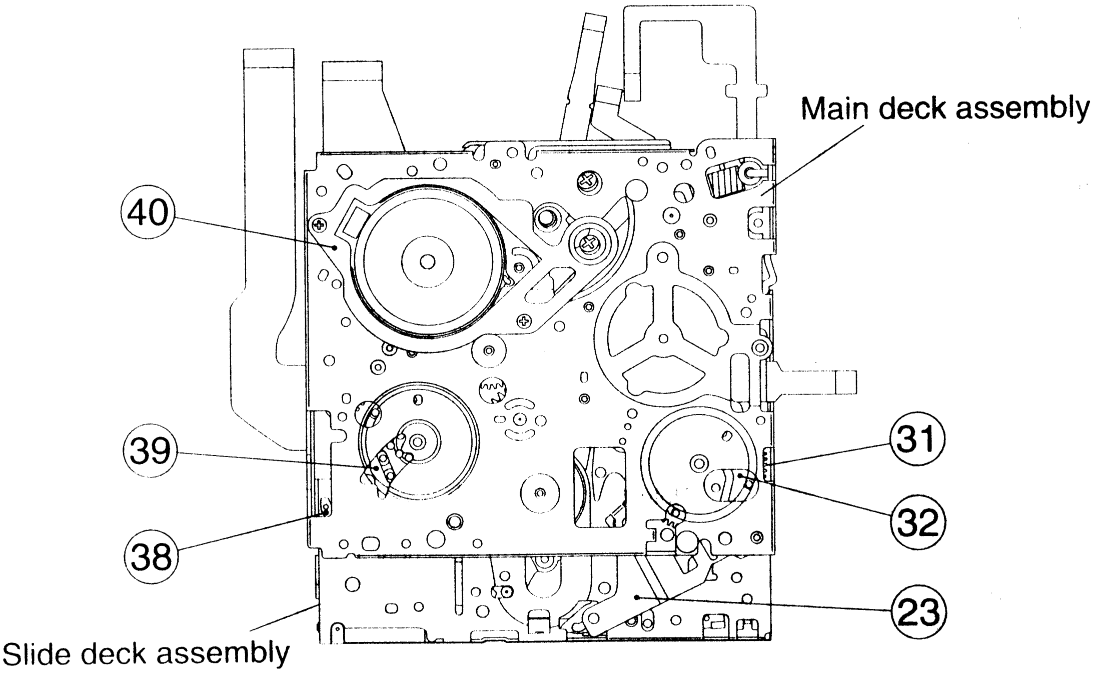

Main deck assembly
40
39
38
31
32
23
Slide deck assembly

Fig. 2-2-11 Bottom view

2.2.5 Disassembling/reassembling

1. Ⓐ Cassette housing assembly

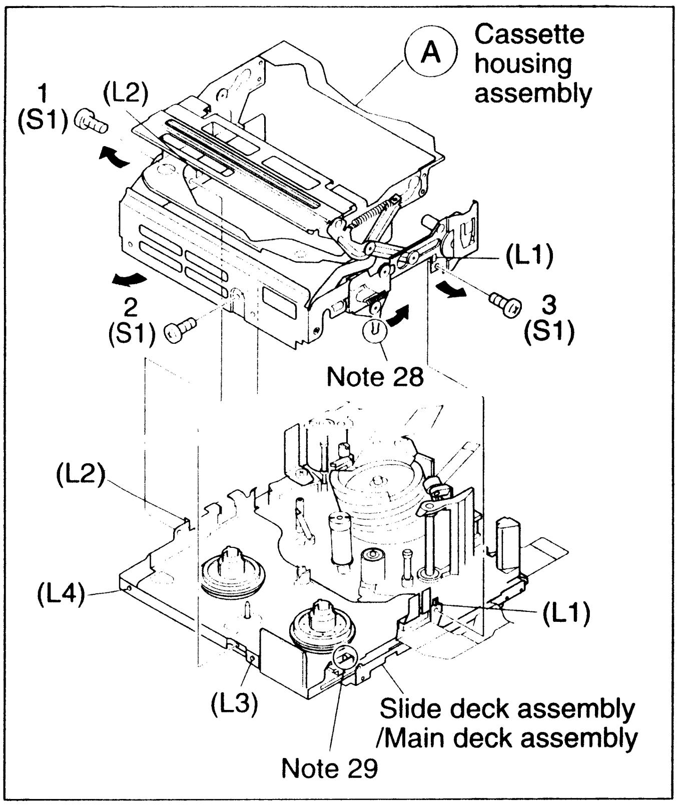

A
Cassette housing assembly
1 (L2)
(S1)
(L1)
2
(S1)
3
(S1)
Note 28
(L2)
(L4)
(L1)
(L3)
Slide deck assembly /Main deck assembly
Note 29

Fig. M1

2. ① Reel disk (SUP) assembly
② Reel disk (TU) assembly
③ Reel cover assembly

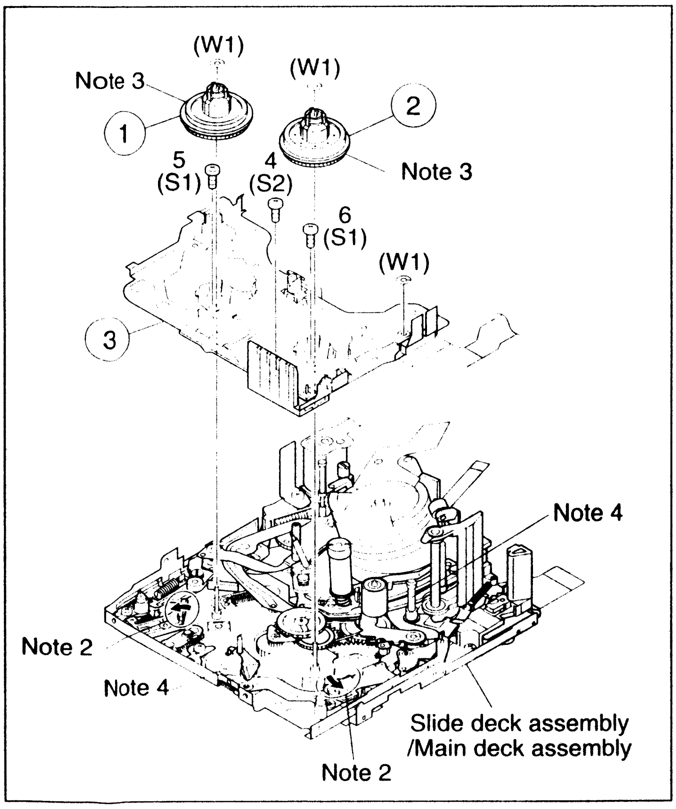
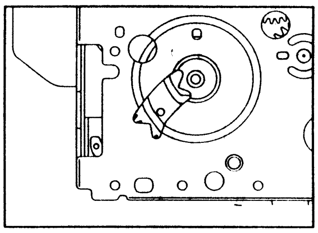
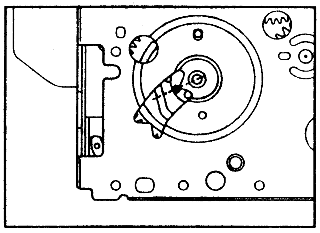

(W1)
Note 3
(W1)
1
2
5
(S1)
4
(S2)
Note 3
6
(S1)
(W1)
3
Note 4
Note 2
Note 4
Slide deck assembly /Main deck assembly
Note 2

Fig. M2

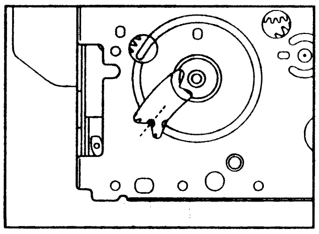
<STOP mode>



<EJECT mode>



<PLAY mode>



Note 1:
Shift the mechanism mode from the STOP mode to the EJECT mode.

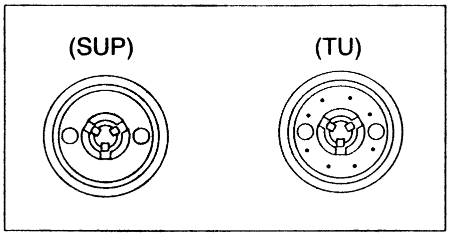
Note 28:
Reassemble the cassette housing assembly to the mechanism as the cancel lever is moved in the direction of the arrow.

Note 29:
When reassembling the cassette housing to the mechanism, make sure that there is no deformation in the frame or no damage to the switches, etc.

Note 30:
After reassembling the component parts, check the mechanism operation in the PLAY mode.
For details of checking method, refer to "2.2.8 Reassembling slide deck assembly and main deck assembly".

Note 2:
When removing the reel disk assembly, be careful not to break the brake pad which applies lateral pressure to the reel disk.

Note 3:
Be careful not to make a mistake in installing the reel disk. The SUP reel disk and TU reel disk can be distinguished from each other by the appearance as shown below.



Note 4:
When removing the reel cover assembly, pay heed to the guide arm assembly. For, the guide arm assembly is just inserted into the slide deck assembly from the upside and it is apt to come off after the reel cover assembly is removed.

3. ④ Tension arm assembly/ ⑤ Release guide assembly ⑥ Idler arm assembly/ ⑦ Guide arm assembly ⑧ Pinch roller arm assembly

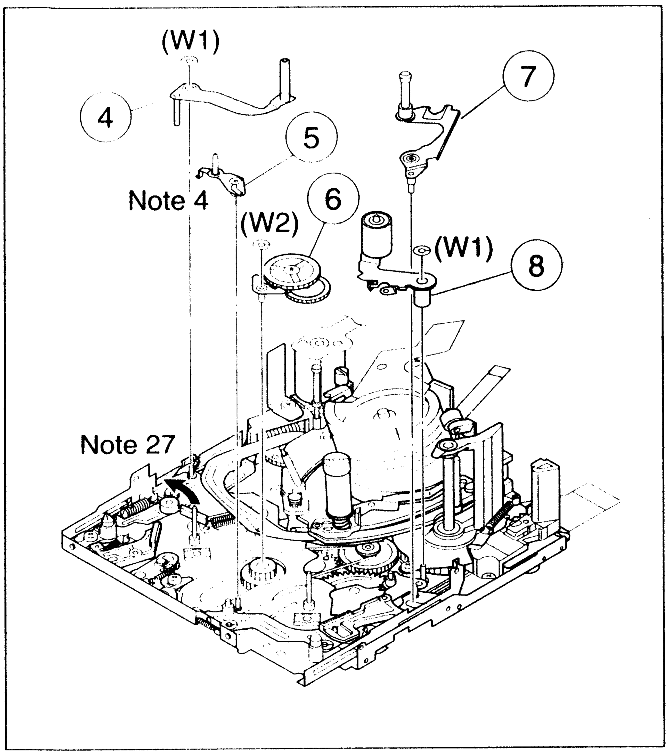
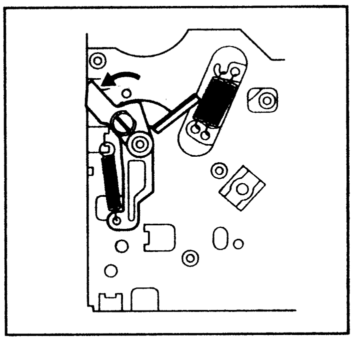


Fig. M3

Note 4:
When removing the reel cover assembly, pay heed to release guide assembly and guide arm assembly. For, the guide arm assembly is just inserted into the slide deck assembly from the upside and it is apt to come off after the reel cover assembly is removed.

Note 27:
Reassemble the tension arm assembly to the mechanism as the pad arm assembly is moved to the extent in the direction of the arrow.



4. ⑨ Cleaner arm assembly/⑩Slant pole arm assembly ⑪ Drum assembly

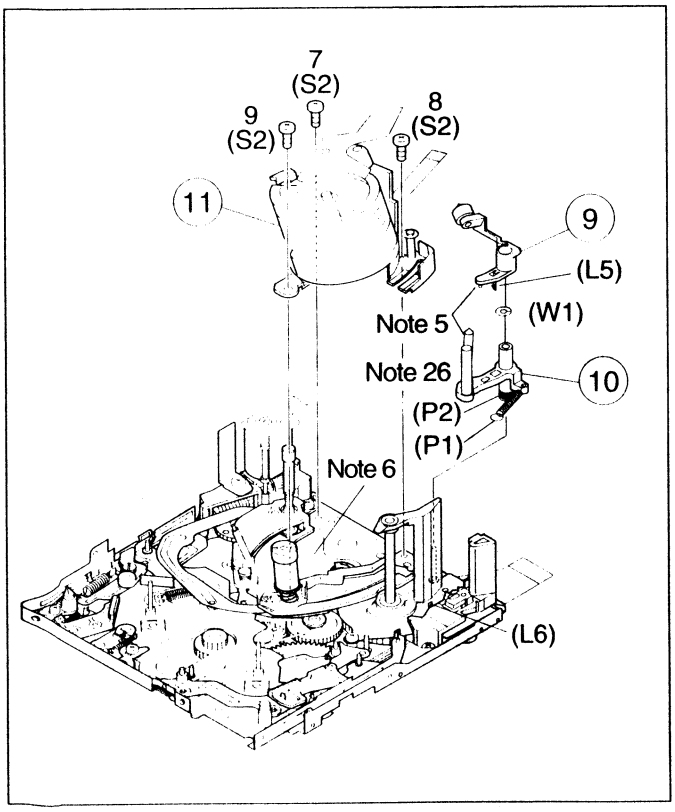
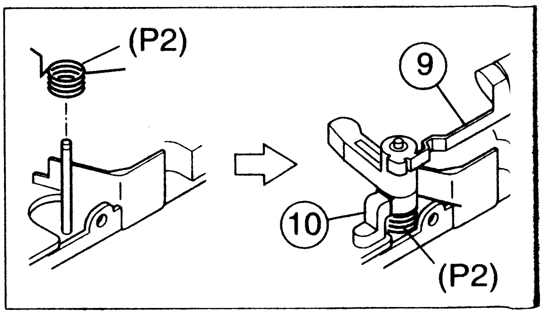


Fig. M4

Note 5:
When removing the cleaner arm assembly, it is recommended to remove the slant pole arm assembly together with it except the case of a single unit replacement, because the hook (L5) is hard to disengage.

Note 6:
When the shield is applied, carefully remove the drum final assembly because the drum is stuck to the shield.

Note 26:
How to set the coil spring (P2).



5. ⑫ Guide roller (SUPPLY) assembly/ ⑬ Rail assembly

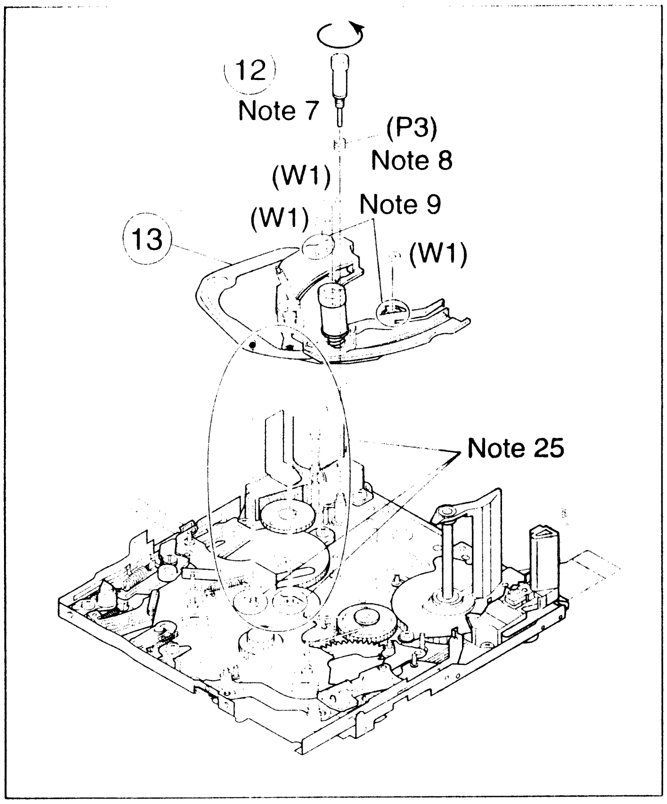


Fig. M5

Note 7:
When removing the rail assembly, remove the guide roller (SUPPLY) assembly beforehand.

Note 8:
Pay careful attention to the spring not to lose it.

Note 9:
Pay careful attention to the engagement of the rail assembly's arm ends because they easily come off the engagement. Moreover, make sure that there is neither deformation nor damage observed in them.

Note 25:
When removing the rail assembly, check to see if the collar is securely set in the arm groove.

6. Ⓑ Slide deck assembly/ Ⓒ Main deck assembly

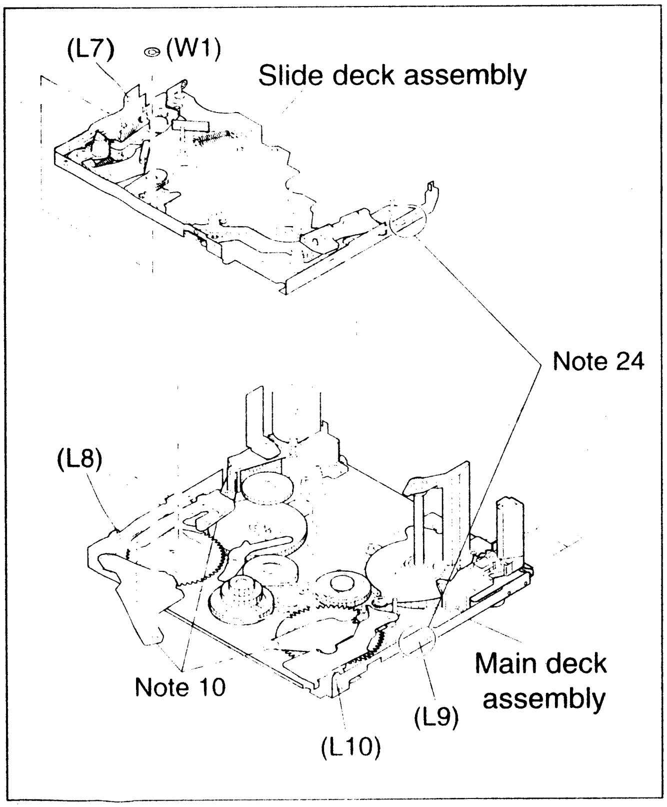
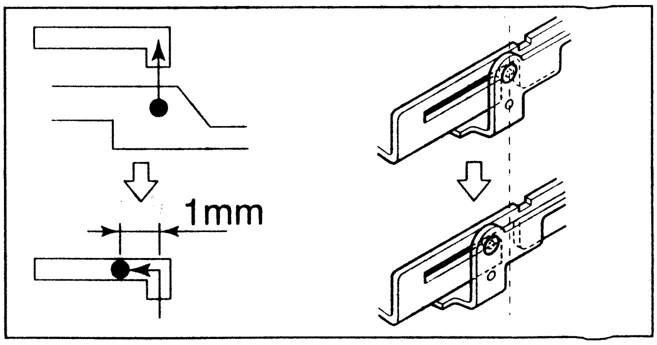


Fig. M6

Note 10:
When removing the slide deck assembly, pay heed to the three components of the following because they are apt to come off after the slide deck assembly is removed.

㉒ Tension lever assembly/㉓ Slide lever assembly
㉔ Brake control lever assembly
For reassembling those components, refer to Fig. M8 on page 2-10.

Note 24:
When reassembling the slide deck assembly to the main deck assembly, combine them with each other by the side grooves and then slide the slide deck assembly by 1 mm or so.



7. ⑭ Loading brake assembly/ ⑮ Guide pin (S)
⑯ Pad arm assembly/ ⑰ Slide guide plate assembly
⑱ Collar/ ⑲ Collar/ ⑳ Sub brake assembly
㉑ Control plate assembly

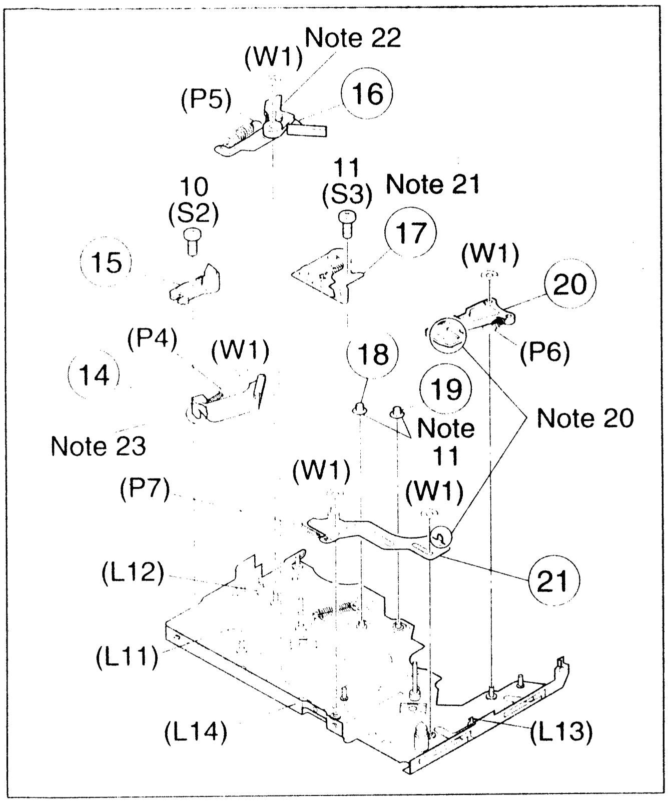


Fig. M7

8. ㉒ Tension lever assembly/ ㉓ Slide lever assembly
㉔ Brake control lever assembly

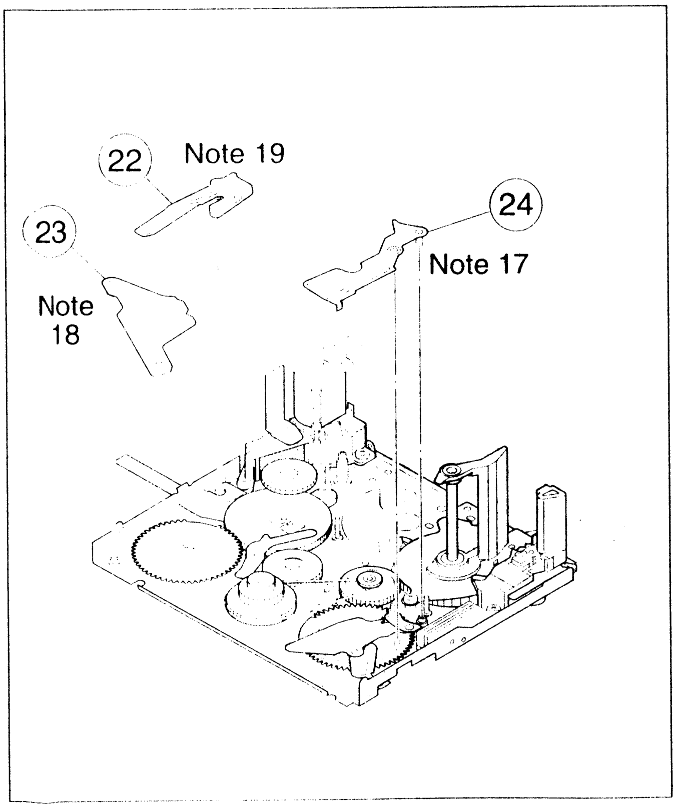
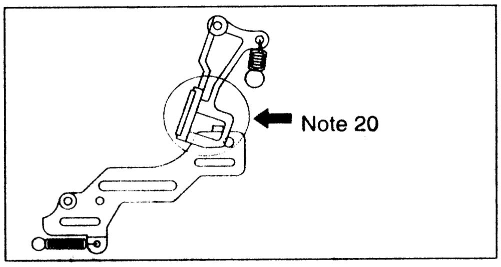


Fig. M8

Note 11:
Don't remove these parts unreasonably. If they are removed for some reason, be very careful not to lose them.

Note 20:
When reinstalling the sub brake assembly, set the control plate assembly so that its hook is set in the # part of the sub brake assembly.



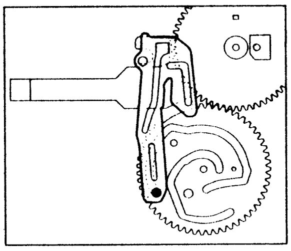
Note 21:
Since the slide guide plate assembly controls the slide deck assembly so that it exactly slides the main deck assembly, it must exactly be assembled in the PLAY mode. Therefore, temporarily fix the slide guide plate assembly in this stage. For details of reassembling procedure, refer to "2.2.8 Reassembling slide deck assembly and main deck assembly" on page 2-15.

Note 22:
The pad arm assembly controls the tension level of the tension arm assembly. For adjustment of the tension arm assembly, refer to page 2-8.

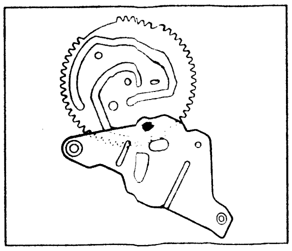
Note 23:
When reinstalling the load brake assembly, slightly lift the slide deck assembly upwards because the lower part of the load brake assembly sticks out of the slide deck assembly.

Note 17, 18, 19:
For refitting the respective parts, refer to the following figures.

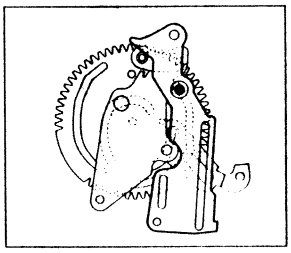
㉒ Tension lever assembly



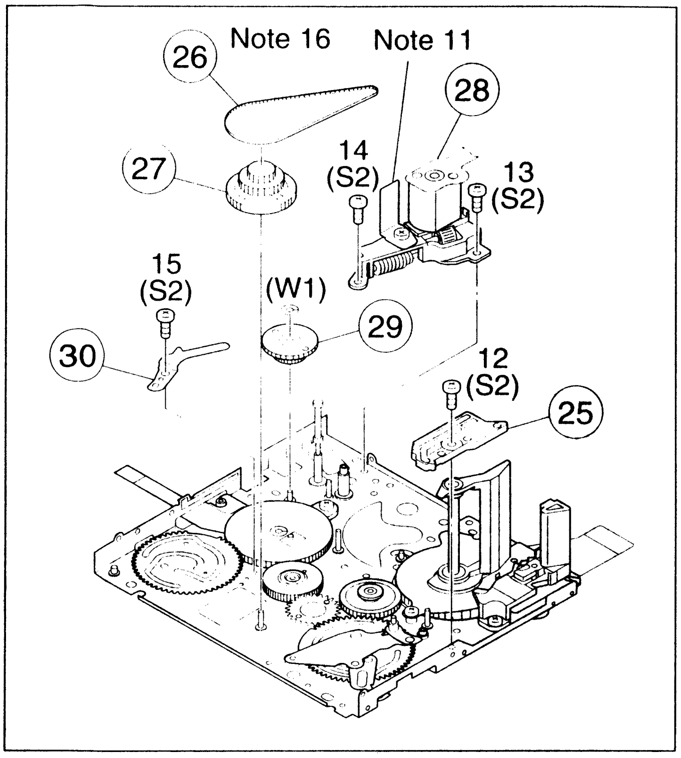
㉓ Slide lever assembly



㉔ Brake control lever assembly



9. ㉕ Loading guide/ ㉖ Timing belt
㉗ Center gear assembly/ ㉘ Motor bracket assembly
㉙ Worm wheel/ ㉚ Gear holder



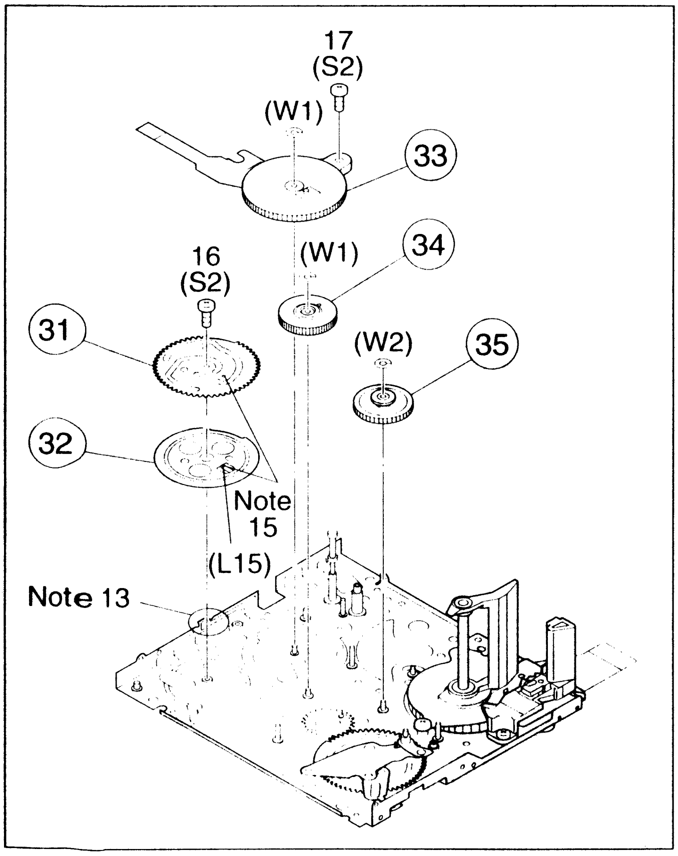
26
Note 16
Note 11
28
27
14
(S2)
13
(S2)
15
(S2)
(W1)
29
30
12
(S2)
25

Fig. M9

Note 12:
Carefully handle the DEW sensor. (Don't touch the sensor surface in particular.)

Note 16:
When engaging the timing belt, make sure that it securely engages with the gears of both the center gear assembly and reel drive pulley assembly.

10. ㉛ Main cam gear/ ㉜ Brake control plate
㉝ Rotary encoder/ ㉞ Connect gear
㉟ Reel drive pulley assembly

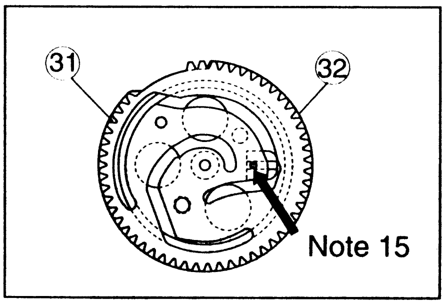


17
(S2)
(W1)
33
16
(S2)
(W1)
34
31
(W2)
35
32
Note
15
(L15)
Note 13

Fig. M10

Note 13:
When removing/refitting parts, pay careful attention to the flexible board and so on not to damage them.

Note 15:
When reinstalling the main cam gear and the brake control plate, first fit them together so that the protrusion on the brake control plate is set in the slot on the main cam gear as shown below, next install the two together to the main deck assembly.



31
32
Note 15

11. ㊱ Catcher (T) assembly/ ㊲ Capstan motor
㊳ Charge arm assembly/㊴ Sub cam gear
㊵ PWB holder

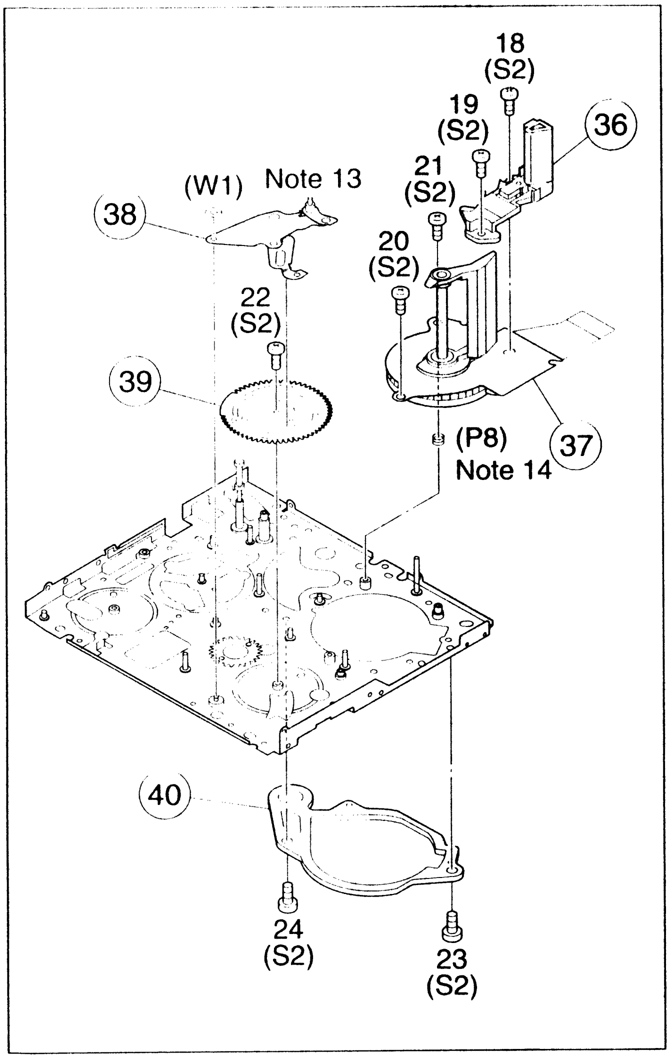
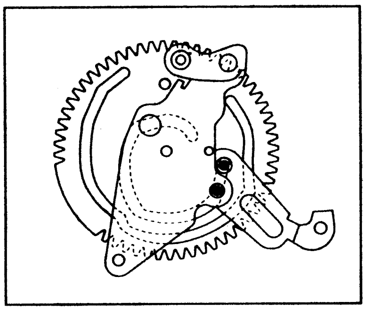
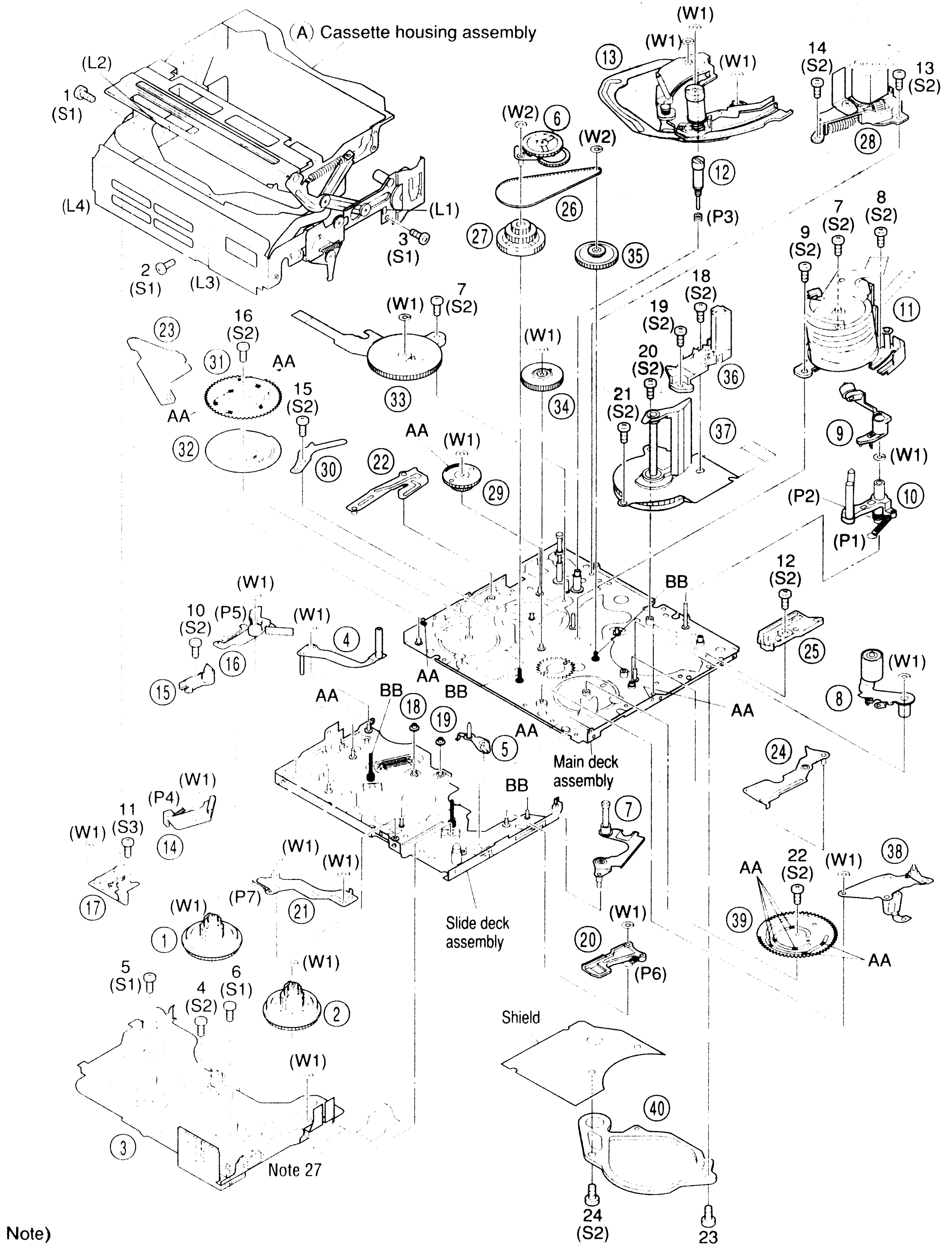

18
(S2)
19
(S2)
36
21
(S2)
(W1)
Note 13
38
20
(S2)
22
(S2)
39
(P8)
Note 14
37
40
24
(S2)
23
(S2)

Fig. M11

Note 14:
The following figure shows how to put the charge arm assembly and sub cam gear assembly together.



2.2.6 List of procedures for disassembly

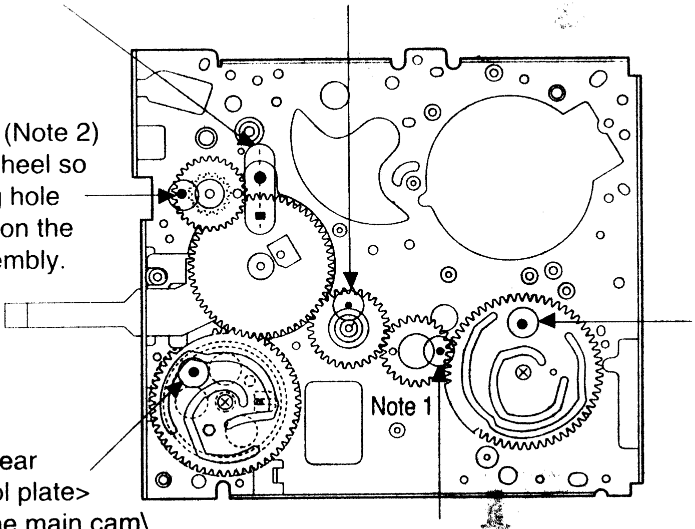

(A) Cassette housing assembly
(L2)
1
(S1)
(L4)
(L1)
3
(S1)
2
(S1)
(L3)
(W1)
(W1)
(W1)
⑬
14
(S2)
13
(S2)
㉘
(W2)
⑥
(W2)
⑫
㉖
(P3)
㉗
㉟
7
(S2)
8
(S2)
9
(S2)
⑪
18
(S2)
19
(S2)
20
(S2)
㊱
21
(S2)
㊲
7
(W1)
(S2)
(W1)
㉝
㉞
16
(S2)
㉓
㉛
AA
AA
15
(S2)
㉜
㉚
AA
(W1)
㉒
㉙
⑨
(W1)
(P2)
⑩
(P1)
BB
12
(S2)
(W1)
10
(S2)
(P5)
(W1)
④
⑯
⑮
AA
AA
BB
BB
⑱
⑲
AA
⑤
㉕
(W1)
⑧
AA
Main deck assembly
㉔
(W1)
11
(W1)
(S3)
(P4)
⑭
BB
⑦
⑰
(W1)
(W1)
(W1)
(P7)
㉑
①
Slide deck assembly
(W1)
⑳
(P6)
AA
22
(S2)
(W1)
㊳
㊴
AA
5
(S1)
4
(S2)
6
(S1)
(W1)
②
Shield
(W1)
㊵
③
Note 27
24
(S2)
23
(S2)

Note)

Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-P	AA
Oil	YTU94027	BB

Fig. 2-2-12

2.2.7 Checkup and adjustment of mechanism phase



<Rotary encoder>
Set the "■" of the rotary part at the tapped hole as shown in the figure.

<Connect gear> (Note 2)
Set the connect gear so that its locating hole meets the hole on the main deck assembly.

<Worm wheel> (Note 2)
Set the worm wheel so that its locating hole meets the hole on the main deck assembly.

<Sub cam gear>
Set the sub cam gear so that its locating hole meets the hole on the main deck assembly. This state represents that the mechanism is in the EJECT mode, which is the "mechanism assembly mode".

<Main cam gear /Brake control plate>
After fitting the main cam\ gear and brake control plat together,set them together so that their locating holes meet the hole on the main \ deck assembly.

<Connect gear 2> (Note 2)
Set the connect gear 2 so that its locating hole meets the hole on the main deck assembly.

Note 1:
Since the connect gear 2 is tightly fixed to the main deck by caulking, adjust its phase with the connect gear and sub cam gear.

Note 2:
The part that needs phase adjustment by the hole on the main deck assembly must exactly be set as the specified phase. There is a fear that some part is installed in a wrong phase because assembling of the mechanism is automated. If so, set every part in the correct phase whenever the mechanism is reassembled.

Fig. 2-2-13

2.2.8 Reassembling slide deck assembly and main deck assembly

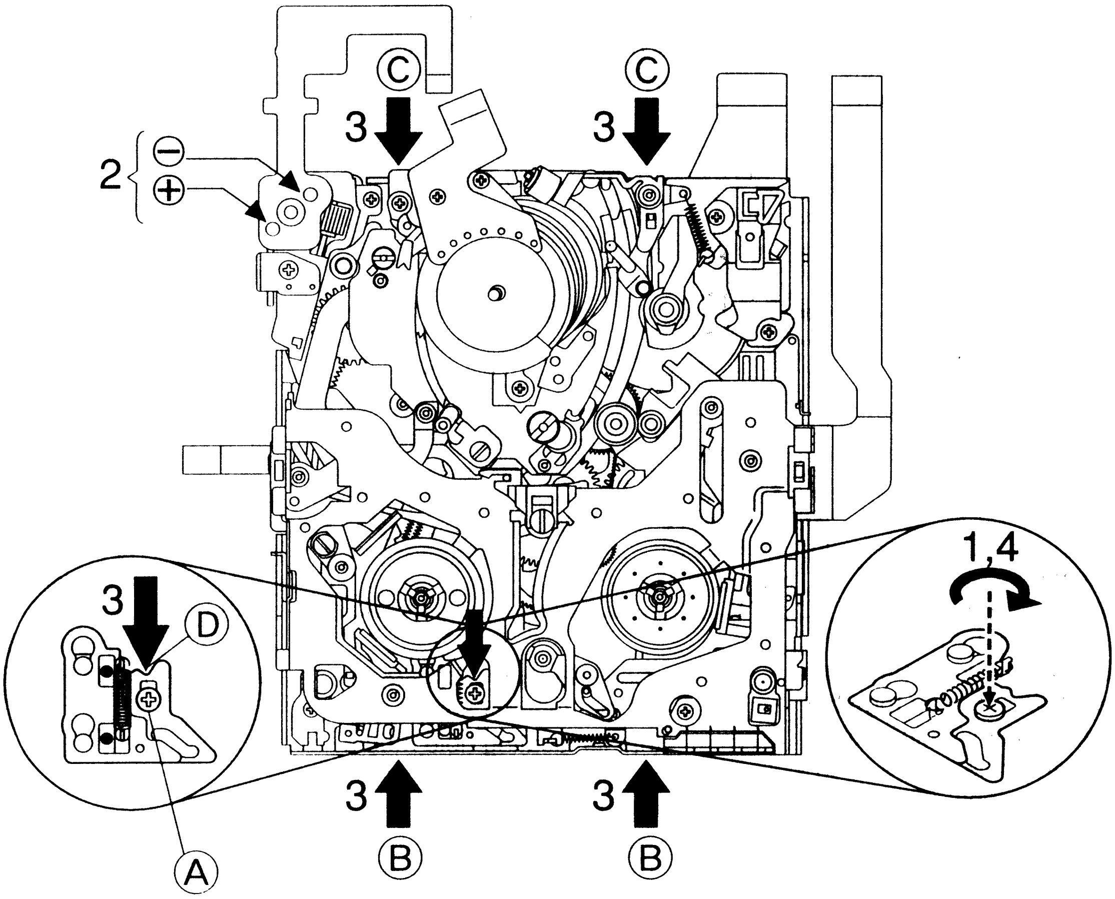


Fig. 2-2-14

Reassembling procedure

1. Loosen the screw Ⓐ.
2. Set the mechanism in the play mode. (Refer to page 2-2.)
3. Press the end face Ⓑ of the slide deck assembly (reel disk side) and the end face Ⓒ of the main deck assembly (drum assembly side) with uniform force so that the two assemblies are tightly pressed to each other. Furthermore, press the part Ⓓ and tighten the screw Ⓐ.

Note: *Tightening torque for screw Ⓐ: 0.03 N·m (0.3 kgf·cm)*

2.2.9 Locating tension pole

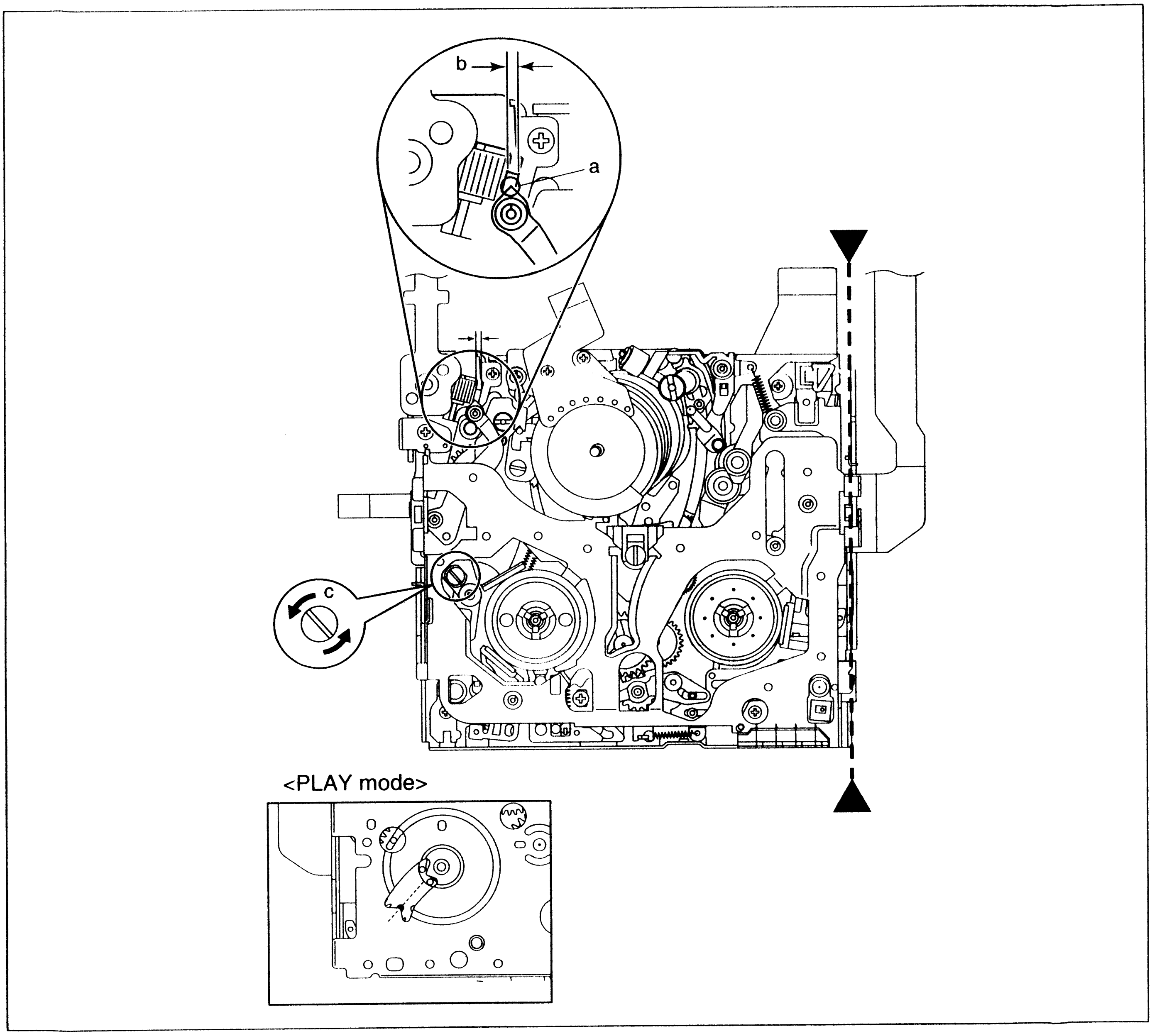


Fig. 2-2-15

Locating procedure

1. Enter the mechanism assembly into the PLAY mode. (Refer to page 2-2.)
2. When the " ▶-----◀ " part is positioned down, make sure that the part "a" of the tension arm assembly is located within the range of "b".
3. If the part "a" is out of the range, turn the pin "c" to adjust the position.

2.3 PROCEDURE OF COMPATIBILITY AND P.B. EQ. (ERROR RATE) ADJUSTMENTS

2.3.1 Precautions

Prior to starting disassembling and adjusting work, be sure to make a backup copy of the data stored in the EEPROM (IC1003 on the MAIN2 board) for the "EEPROM utility" of the SSS software.

Table 2-3-1 shows important service points for adjustment of P.B. EQ. (error rate).

Adjustment item Service point	Linearity adjustment	P.B. Switching Point adjustment	Head Recording Current adjustment	Error rate (P.B. EQ). adjustment (SP/LP)
Replacement of DRUM	Necessary **Note 1**	Necessary	Necessary	Necessary
Replacement of parts of tape transport system	Necessary **Note 1**	Unnecessary	Unnecessary	Check
Repair of parts of tape transport system (DRUM)	Necessary **Note 1**	Unnecessary	Unnecessary	Check
Replacement of IC3502 (MAIN1 board. PRE/REC amp)	Unnecessary	Unnecessary	Unnecessary	Necessary
Replacement of IC3501 (MAIN1 board. EQ.)	Unnecessary	Unnecessary	Unnecessary	Necessary
Replacement of MAIN2 BOARD **Note 2**	Unnecessary	Necessary	Necessary	Necessary

Table 2-3-1

Note 1: *Linearity adjustment is needed only after replacement of the drum or replacement/repair of the TU/SUP guide rail.*

Note 2: *After replacement of the MAIN2 board, be sure to write the original data on the EEPROM of the new MAIN2 board. After data writing, adjust the camera section. When the MAIN2 board is replaced for the reason of communication failure, install the original EEPROM on the new MAIN2 board.*

If adjustment is needed for two or more items, proceed in adjustment of respective items in the following order.

2.3.3 Linearity adjustment

↓

2.3.4 PB switching point adjustment

↓

2.3.5 Head REC current adjustment

↓

2.3.6 P.B. EQ. (error rate) adjustment (both in SP and LP)

2.3.2 Preparation for adjustment

For actual adjustment, the set must be prepared as mentioned below. Refer to Fig. 2-3-1, too.

1. Remove one screw (1) and cover (for jig).
2. Connect the jig connector cable to CN108 on the MAIN1 board.
3. Connect the power supply jig to CN303 on the REG board.
4. Play back the alignment tape. Remove the cover(s) (for cassette/lower) and turn the guide roller when adjustment is needed.
   Be careful not to damage the exterior at that time.

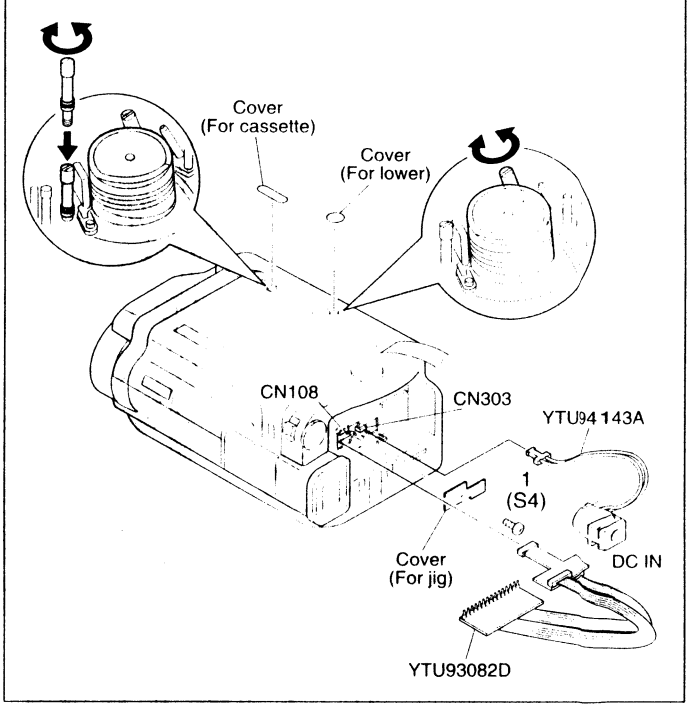

Cover
(For cassette)
Cover
(For lower)
CN108
CN303
YTU94143A
1
(S4)
Cover
(For jig)
DC IN
YTU93082D

Fig. 2-3-1

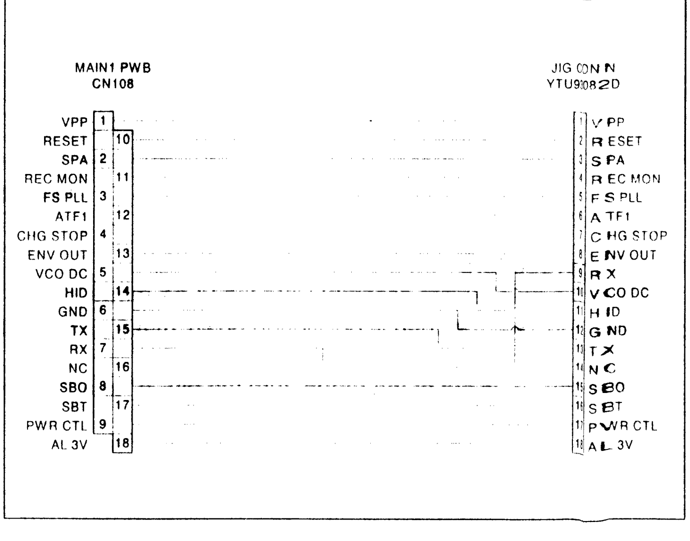
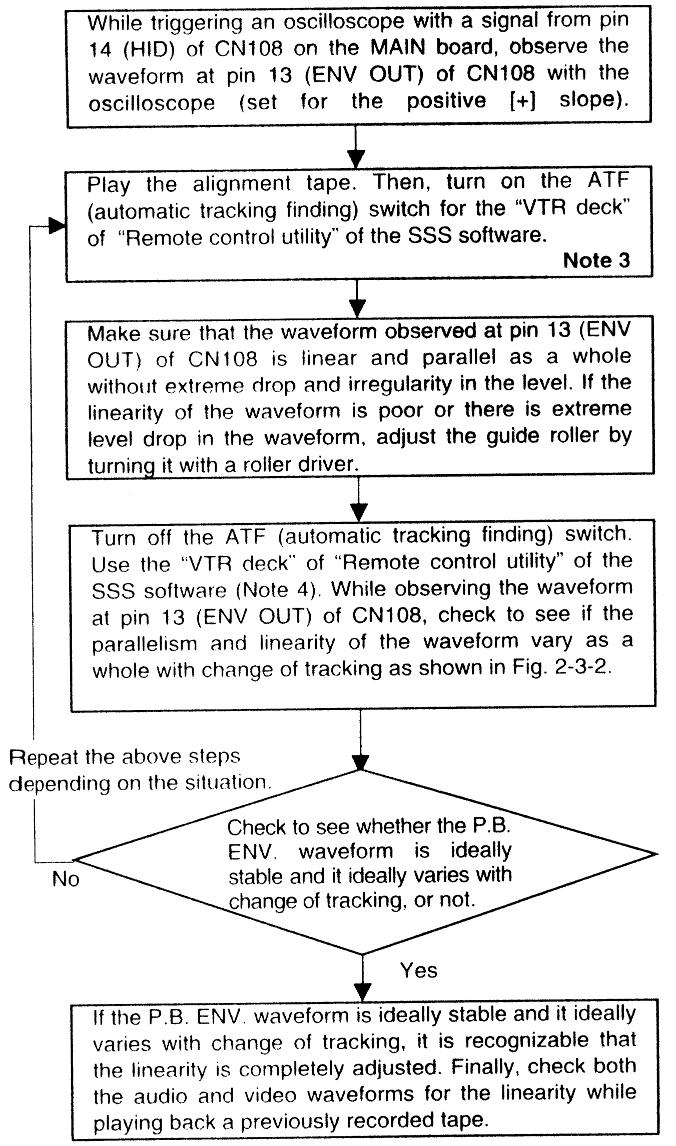

MAIN1 PWB
CN108
JIG CON N
YTU93082D
VPP 1
RESET 10
SPA 2
REC MON 11
FS PLL 3
ATF1 12
CHG STOP 4
ENV OUT 13
VCO DC 5
HID 14
GND 6
TX 15
RX 7
NC 16
SBO 8
SBT 17
PWR CTL 9
AL 3V 18
1 VPP
2 RESET
3 SPA
4 REC MON
5 FS PLL
6 ATF1
7 CHG STOP
8 ENV OUT
9 RX
10 VCO DC
11 HID
12 GND
13 TX
14 NC
15 SBO
16 SBT
17 PWR CTL
18 AL 3V

Fig. 2-3-2 Patch cord schematic diagram

2.3.3 Linearity adjustment

Procedure of linearity adjustment is shown by the following flowchart.



While triggering an oscilloscope with a signal from pin 14 (HID) of CN108 on the **MAIN** board, observe the waveform at pin 13 (ENV OUT) of CN108 with the oscilloscope (set for the **positive** [+] slope).

Play the alignment tape. Then, turn on the ATF (automatic tracking finding) switch for the "VTR deck" of "Remote control utility" of the SSS software. **Note 3**

Make sure that the waveform observed at pin 13 (ENV OUT) of CN108 is linear and parallel as a whole without extreme drop and irregularity in the level. If the linearity of the waveform is poor or there is extreme level drop in the waveform, adjust the guide roller by turning it with a roller driver.

Turn off the ATF (automatic tracking finding) switch. Use the "VTR deck" of "Remote control utility" of the SSS software (Note 4). While observing the waveform at pin 13 (ENV OUT) of CN108, check to see if the parallelism and linearity of the waveform vary as a whole with change of tracking as shown in Fig. 2-3-2.

Check to see whether the P.B. ENV. waveform is ideally stable and it ideally varies with change of tracking, or not.

If the P.B. ENV. waveform is ideally stable and it ideally varies with change of tracking, it is recognizable that the linearity is completely adjusted. Finally, check both the audio and video waveforms for the linearity while playing back a previously recorded tape.

Repeat the above steps depending on the situation.
No
Yes

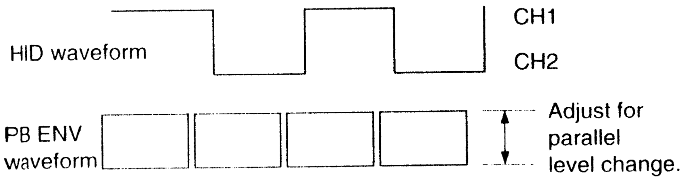

HID waveform
CH1
CH2
PB ENV waveform
Adjust for parallel level change.

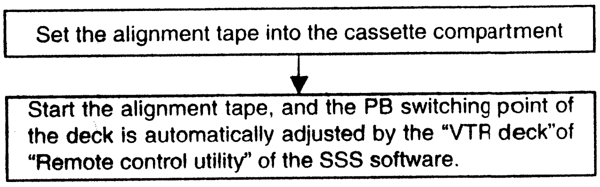
Fig. 2-3-3 P.B. ENV. Waveform

Note 3: *In case of the VHS tape recorder, the first tracking point can be locked by means of CTL pulse and DRUM FF when the automatic tracking (AT) function is off, because the VHS tape recorder has an A/C head. Therefore, the linearity of the VHS tape recorder is adjustable even when the AT is off.*
On the other hand, the linearity of the DVC cannot be adjusted when the automatic tracking finding (ATF) function is inactivated, because the DVC has no A/C head. When the ATF of the DVC is off, its tracking operation is effectuated only for the speed control system. Therefore, as time elapses, the DVC gradually fails in the servo control and it becomes hard to adjust the linearity.

Note 4: *In practice, if linearity adjustment is performed within a few minutes after the ATF is switched off, the state (ATF off) may be left out of consideration, because the speed servo of the DVC functions when the ATF is off.*

2.3.4 PB switching point adjustment

Procedure of PB switching point adjustment is shown by the following flowchart.

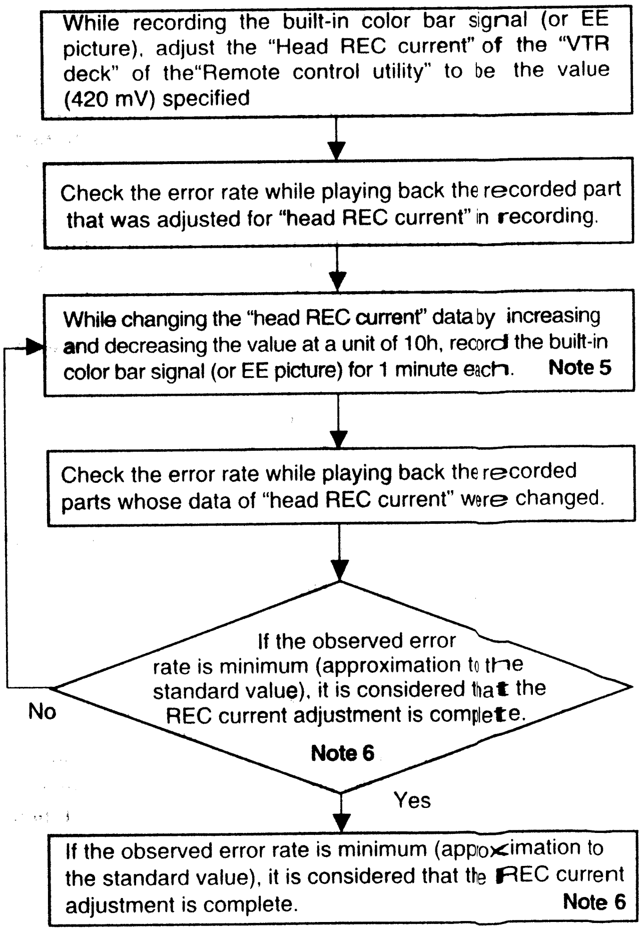


Set the alignment tape into the cassette compartment

Start the alignment tape, and the PB switching point of the deck is automatically adjusted by the "VTR deck"of "Remote control utility" of the SSS software.

2.3.5 Head REC current adjustment

Procedure of head REC current adjustment is shown by the following flowchart.



While recording the built-in color bar signal (or EE picture), adjust the "Head REC current" of the "VTR deck" of the"Remote control utility" to be the value (420 mV) specified

Check the error rate while playing back the recorded part that was adjusted for "head REC current" in recording.

While changing the "head REC current" data by increasing and decreasing the value at a unit of 10h, record the built-in color bar signal (or EE picture) for 1 minute each. **Note 5**

Check the error rate while playing back the recorded parts whose data of "head REC current" were changed.

If the observed error rate is minimum (approximation to the standard value), it is considered that the REC current adjustment is complete. **Note 6**

If the observed error rate is minimum (approximation to the standard value), it is considered that the REC current adjustment is complete. **Note 6**

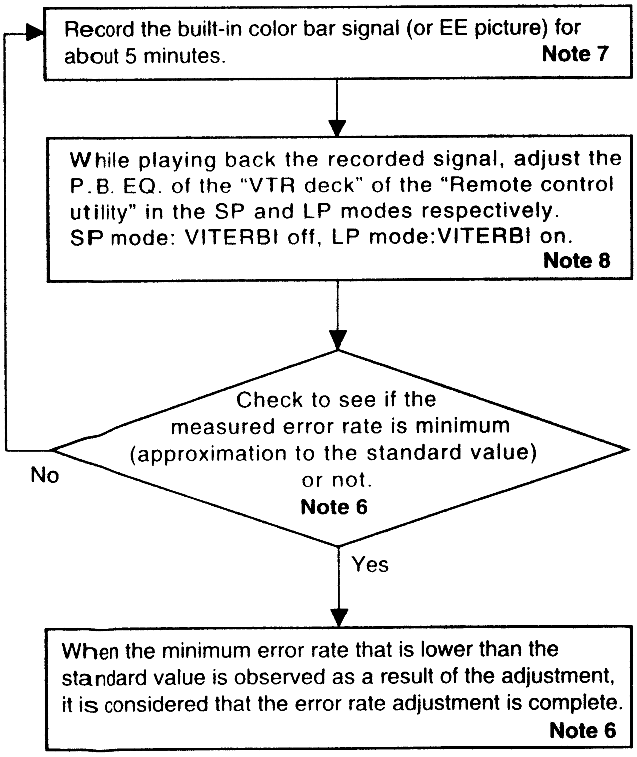
If the minimum error rate does not approximate to the standard value (see Note 7) in spite of repeated adjustments, clean the head and tape transport system. If cleaning has no effect on improvement of the error rate, it is thinkable that there is a failure in the head or the preamp shield, or the P.B. EQ. (error rate) is incompletely adjusted. In such the case, try to proceed in P.B. EQ. adjustment with the alignment tape prior to adjustment of "head REC current". In other words, if there is something abnormal in the playback system, the indication of the error rate is meaningless. Therefore, it is recommended to perform the "P.B. EQ. (error rate) adjustment" roughly with the alignment tape after completion of the "linearity adjustment" (to adjust error rate to be almost approximate to the standard value), because it facilitates the adjustment of the "head REC current".

Note 5: *The value of the "head REC current" specified on the software is not always optimum.*

Note 6: *In the strict sense of the word, "approximation to the standard value" means a value that is slightly lower than the specified value. Specified values are as follows.*
CH1 or CH2: Less than 1,500 (less than 3,000 in total of CH1 and CH2) with the VITERBI function off.
Difference between channels: Less than 10 times between CH1 and CH2.

2.3.6 P.B. EQ. (error rate) adjustment (for SP and LP)

Procedure of P.B. EQ. (error rate) adjustment is shown by the following flowchart.


Record the built-in color bar signal (or EE picture) for about 5 minutes. Note 7
While playing back the recorded signal, adjust the P.B. EQ. of the "VTR deck" of the "Remote control utility" in the SP and LP modes respectively.
SP mode: VITERBI off, LP mode:VITERBI on. Note 8
Check to see if the measured error rate is minimum (approximation to the standard value) or not. Note 6
No
Yes
When the minimum error rate that is lower than the standard value is observed as a result of the adjustment, it is considered that the error rate adjustment is complete. Note 6

Note 7: *It is advised to use a new cassette tape or an unrecorded part of a used cassette tape for recording. If a damaged tape is used for recording, it results not only in an error of the error rate measurement (measurement result becomes considerably higher than the real value) but also in loss of the reliability of adjustment.*

Note 8: *Switch off the VITERBI function in the playback mode, because it can be switched off in the playback mode only. If the VITERBI function is switched off in the playback mode, the switched-off status is automatically cancelled when playback is discontinued. Therefore, it is required to switch off the VITERBI function in every playback operation.*

2.3.7 Measurement method of P.B. EQ. (error rate)

Neither error rate jig (YTU93083) nor frequency counter is needed. Error rate is shown on the service support in three ways of video CH1, CH2 and total. When measuring error rate by channel, total the video and audio error rates on the same channel.

2.4 SERVICE NOTE

Use the following chart to manage mechanism parts that are removed for disassembling the mechanism.

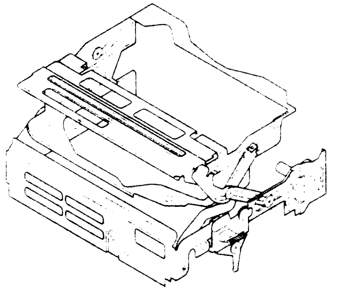
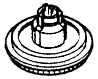
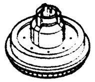
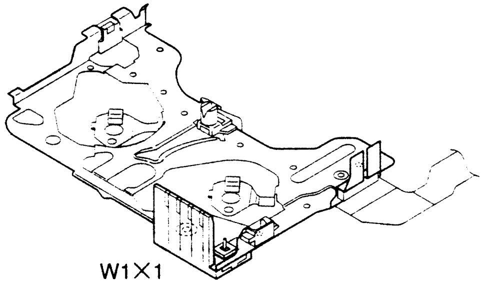
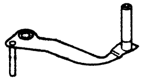
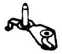
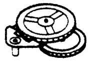
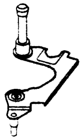
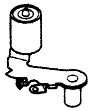
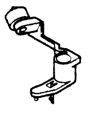
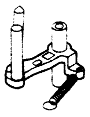
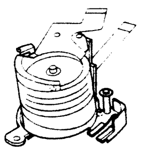
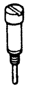
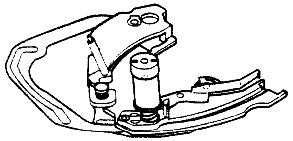
1	Ⓐ Cassette housing assembly  S1×3				
2	① Reel disk (SUP) assembly  W1×1	② Reel disk (TU) assembly  W1×1	③ Reel cover assembly  S1×2 S2×1 W1×1		
3	④ Tension arm assembly  W1×1	⑤ Release guide assembly 	⑥ Idler arm assembly  W2×1	⑦ Guide arm assembly 	⑧ Pinch roller arm assembly  W1×1
4	⑨ Cleaner arm assembly 	⑩ Slant pole arm assembly  W1×1 P1×1 P2×1	⑪ Drum assembly  S2×3		
5	⑫ Guide roller (S) assembly  P3×1	⑬ Rail assembly  W1×3			

Table 2-4-1

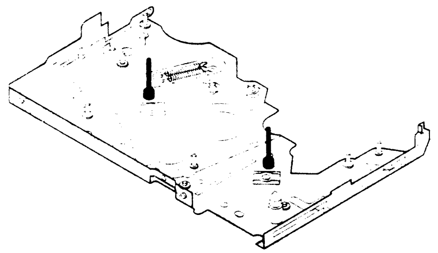
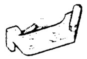
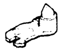
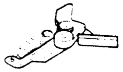
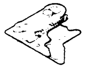
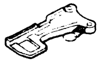
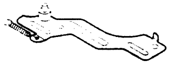
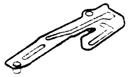
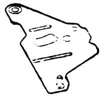
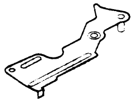
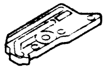
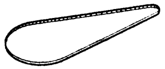
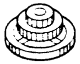
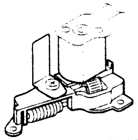
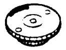
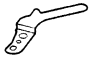
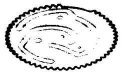
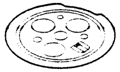
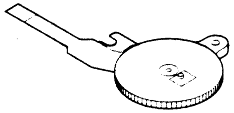
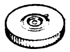
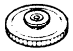
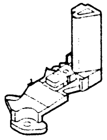
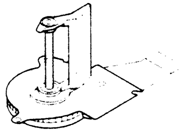
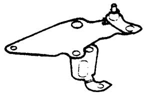
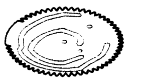
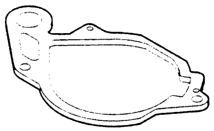
6	B Slide deck assembly 	W1×1
7	⑭ Loading brake assembly 	W1×1 P4×1
	⑮ Guide pin (SUPPLY) 	S2×1
	⑯ Pad arm assembly 	W1×1 P5×1
	⑰ Slide guide plate assembly 	S3×1
	⑱ Collar 	
	⑲ Collar 	
	⑳ Sub brake assembly 	W1×1 P6×1
	㉑ Control plate assembly 	W1×2 P7×1
8	㉒ Tension lever assembly 	
	㉓ Slide lever assembly 	
	㉔ Brake control lever assembly 	
9	㉕ Loading guide 	S2×1
	㉖ Timing belt 	
	㉗ Center gear assembly 	
	㉘ Motor bracket assembly 	S2×2
	㉙ Worm wheel 	W1×1
	㉚ Gear holder 	S2×1
10	㉛ Main cam gear 	S2×1
	㉜ Brake control plate 	
	㉝ Rotary encoder 	S2×1 W1×1
	㉞ Connect gear 	W1×1
	㉟ Reel drive pulley assembly 	W2×1
11	㊱ Catcher (T) assembly 	S2×2
	㊲ Capstan motor 	S2×2
	㊳ Charge arm assembly 	W1×1
	㊴ Sub cam gear 	S2×1
	㊵ PWB holder 	S2×2

Table 2-4-2

SECTION 3
ELECTRICAL ADJUSTMENT

3.1 PREPARATION BEFORE ADJUSTMENT

3.1.1 Precautions

Both the deck and camera sections of this model are designed to be adjustment-free. However, if the following part is replaced, the set must be brought into a JVC service center having a complete set of service equipment, because it needs special adjustment with a personal computer in such a case.

- OP block
- EEPROM (IC1003 on MAIN2 board)
- MONITOR
- EEPROM (IC7302 on MONITOR board)

When there is some trouble with the electric circuit, it is required to detect the part of the failure with specified test instruments first and then to proceed to adjustment, repair or replacement. Matters that require attention:

(1) When checking at a chip test point, be sure to use an IC clip or the like not to apply it any stress.
When replacing a chip part (IC in particular), completely remove solder from it and its periphery before replacement (to avoid exfoliation of the pattern).

(2) Carefully connect/disconnect a connector because it is apt to get damaged.

3.1.2 Required test equipment

① Personal computer (operated on Windows OS)
② Color video monitor
③ Oscilloscope (dual-trace type, observable 100 MHz or higher frequency)
  * It is recommended to use one observable 300 MHz or higher frequency.
④ Digital voltmeter
⑤ DC power supply
⑥ Frequency counter (with threshold level adjustment)

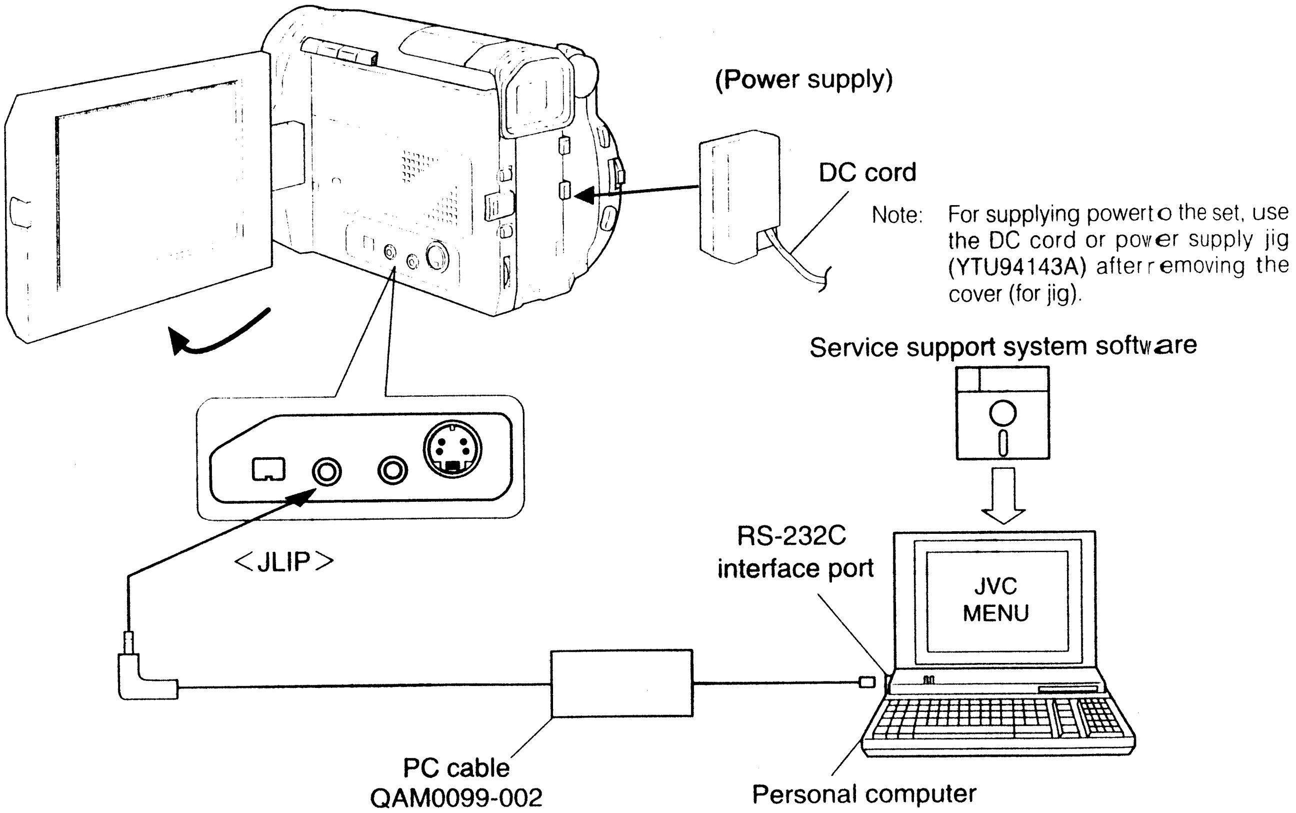
3.1.3 Jigs necessary for electrical adjustment

For jigs necessary for electrical adjustment, refer to pages 1-2 and 1-3 of the Section 1.

3.1.4 Setup

Note: For adjustment with a personal computer, basically use the JLIP terminal of the set for connecting the personal computer.

1. For connecting personal computer directly to the set. (For checking the set status before disassembling.)



Note: For supplying power to the set, use the DC cord or power supply jig (YTU94143A) after removing the cover (for jig).

Fig. 3-1-1 Setup for electrical adjustment with personal computer (I)

2. Setup with patch cords and jig connector cables

NOTE:

Fig. 3-1-2 shows an example of expansion setup that facilitates inspection of major boards because main components are connected by means of patch cords and jig cables. For proceeding to electrical adjustment in such the setup, disassemble the set at a certain level required for the current adjustment objectives referring to the section 1 "DISASSEMBLY" and properly set up the expanded set and test instruments.

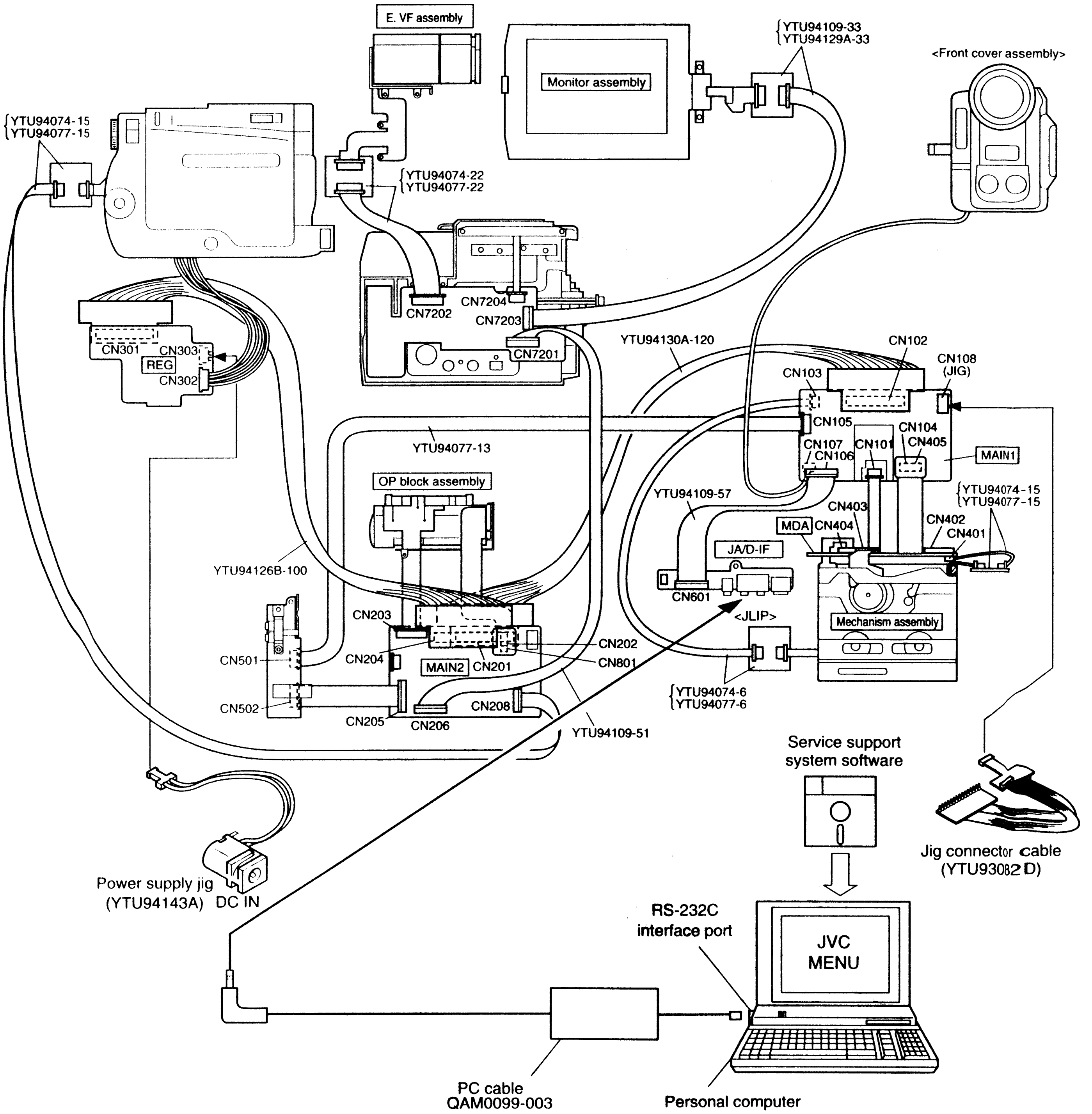

E. VF assembly
Monitor assembly
{YTU94109-33 {YTU94129A-33
<Front cover assembly>
{YTU94074-15 {YTU94077-15
{YTU94074-22 {YTU94077-22
CN7204
CN7202
CN7203
CN7201
CN301
CN303
REG
CN302
YTU94130A-120
CN102
CN108 (JIG)
CN103
CN105
CN104
CN107
CN101
CN405
CN106
MAIN1
YTU94077-13
OP block assembly
YTU94109-57
{YTU94074-15 {YTU94077-15
CN403
CN402
MDA
CN404
CN401
JA/D-IF
YTU94126B-100
CN601
<JLIP>
CN203
Mechanism assembly
CN202
CN501
CN204
MAIN2
CN201
CN801
{YTU94074-6 {YTU94077-6
CN502
CN208
CN205
CN206
YTU94109-51
Service support system software
Jig connector cable (YTU93082D)
Power supply jig (YTU94143A)
DC IN
RS-232C interface port
JVC MENU
PC cable QAM0099-003
Personal computer

Fig. 3-1-2 Setup for electrical adjustment with personal computer (II)

SECTION 4
CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM

Safety precautions
The Components identified by the symbol ⚠ are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

1. Units of components on the schematic diagram

Unless otherwise specified.

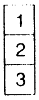
1) All resistance values are in ohm. 1/6 W, 1/8 W (refer to parts list).
   Chip resistors are 1/16 W.
   K: KΩ (1000Ω), M: MΩ (1000KΩ)
2) All capacitance values are in μF, (P: PF).
3) All inductance values are in μH, (m: mH).
4) All diodes are 1SS133, MA165 or 1N4148M (refer to parts list).

2. Indications of control voltage

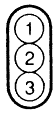
AUX : Active at high.

$\overline{\text{AUX}}$ or AUX(L) : Active at low.

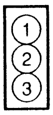
3. Interpreting Connector indications



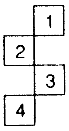
Removable connector



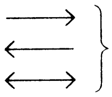
Wire soldered directly on board



Non-removable Board connector



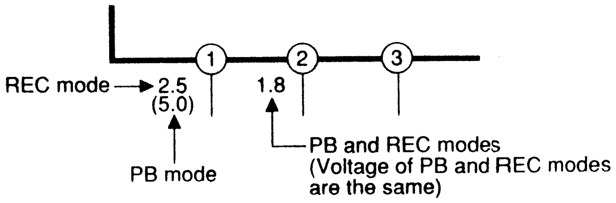
Board to Board



Connected pattern on board
The arrows indicate signal path

4. Voltage measurement

1) Regulator (DC/DC CONV) circuits
   REC : Colour bar signal.
   PB : Alignment tape (Colour bar).
   — : Unmeasurable or unnecessary to measure.
4) Indication on schematic diagram
   Voltage Indications for REC and PB mode on the schematic diagram are as shown below.



Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

5. Signal path Symbols

The arrows indicate the signal path as follows.

NOTE : The arrow is DVC unique object.

⇨	Playback signal path
▭▶	Playback and recording signal path
➡	Recording signal path (including E-E signal path)
⇨▶	Capstan servo path
➡▶	Drum servo path

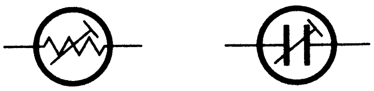
(Example)

⇨ R-Y Playback R-Y signal path

➡ Y Recording Y signal path

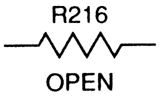
6. Indication of the parts for adjustments

The parts for the adjustments are surrounded with the circle as shown below.



7. Indication of the parts not mounted on the circuit board

"OPEN" is indicated by the parts not mounted on the circuit board.



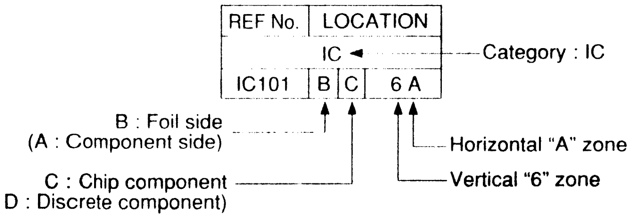
CIRCUIT BOARD NOTES

1. Foil and Component sides

1) Foil side (B side) :
   Parts on the foil side seen from foil face (pattern face) are indicated.
2) Component side (A side) :
   Parts on the component side seen from component face (parts face) indicated.

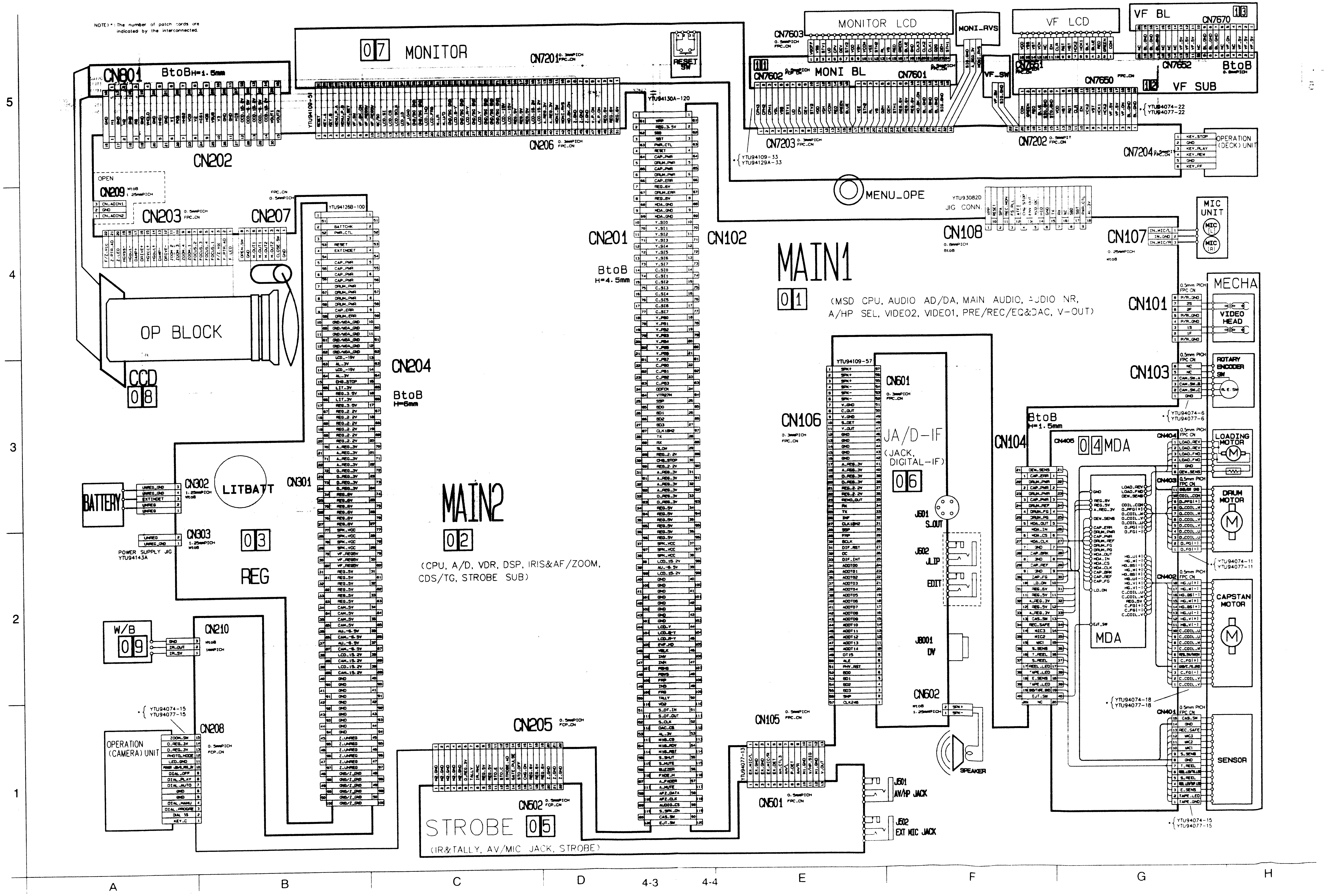
2. Parts location guides

Parts location are indicated by guide scale on the circuit board.

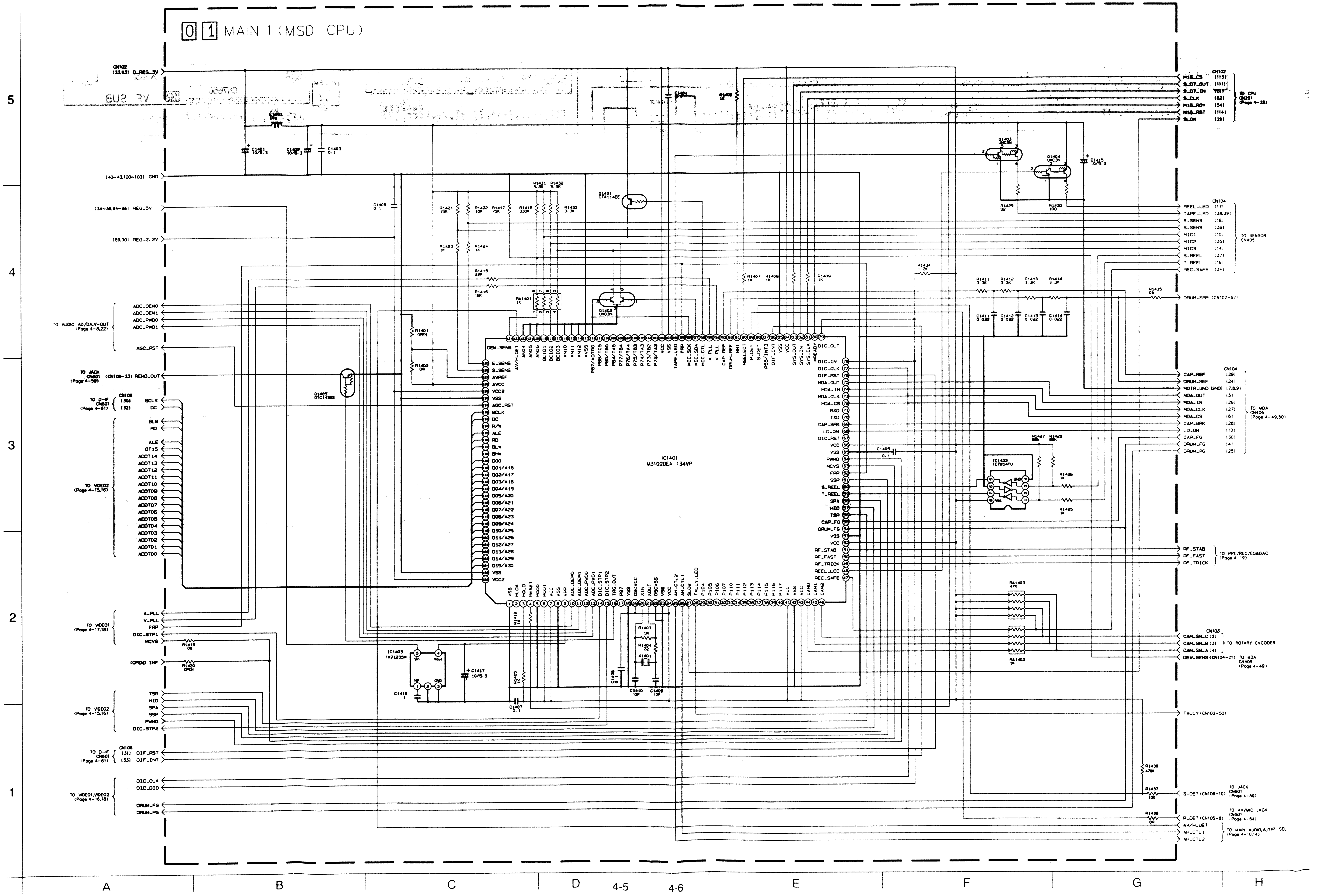

REF No.
LOCATION
IC
Category : IC
IC101
B
C
6 A
B : Foil side
(A : Component side)
C : Chip component
D : Discrete component)
Horizontal "A" zone
Vertical "6" zone

Note: For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).

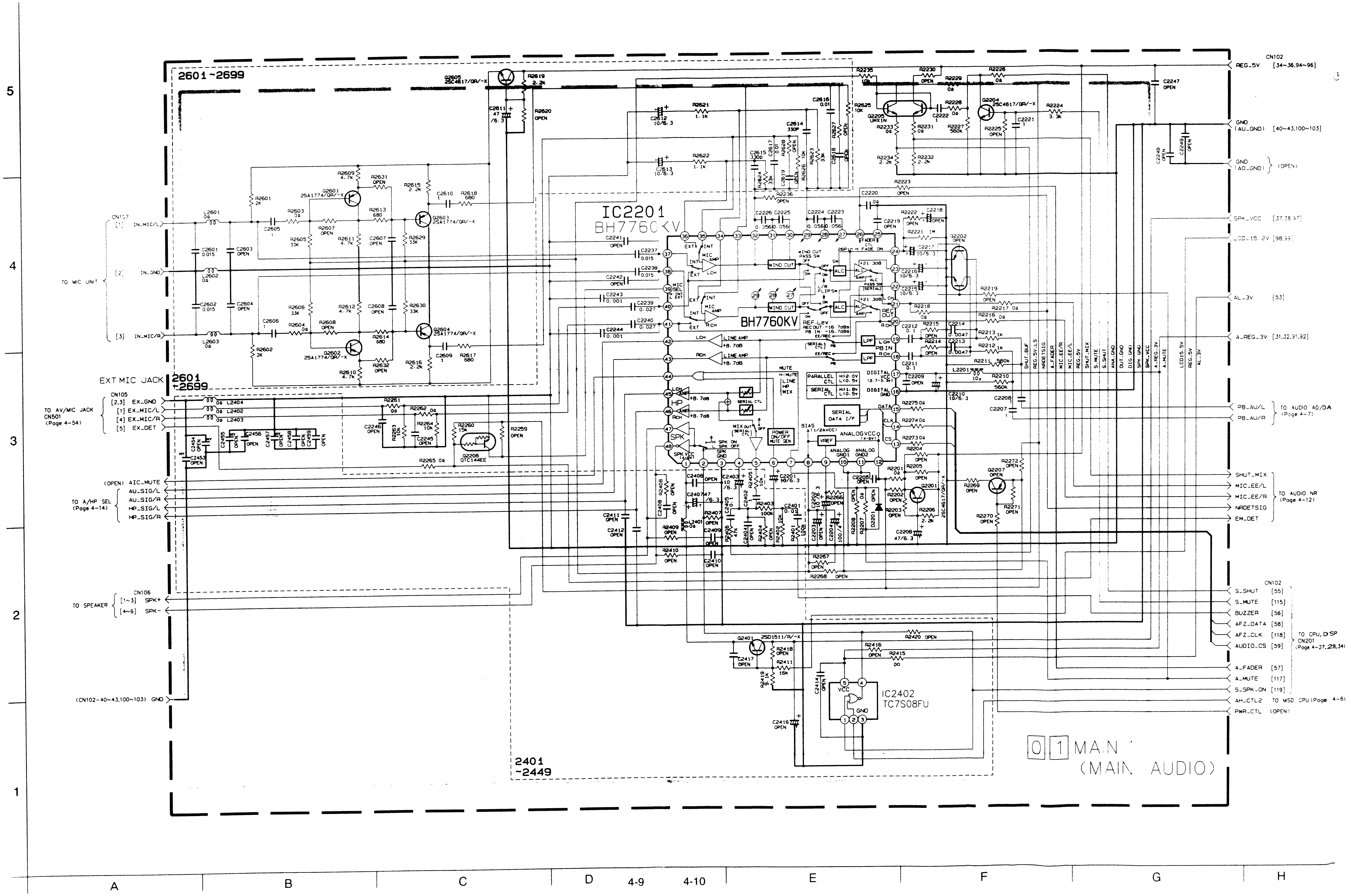
4.1 BOARD INTERCONNECTIONS


NOTE) *: The number of patch cords are indicated by the interconnected.
07 MONITOR
CN7201 0.5mmPICH FPC.CN
RESET SW
CN801 BtoB H=1.5mm
CN202
CN206 0.5mmPICH FPC.CN
YTU94130A-120
OPEN
CN209 WtoB 1.25mmPICH
CN203 0.5mmPICH FPC.CN
CN207 FPC.CN 0.5mmPICH
YTU94126B-100
OP BLOCK
CCD
08
CN204
BtoB H=6mm
CN201
BtoB H=4.5mm
CN102
MAIN1
01
(MSD CPU, AUDIO AD/DA, MAIN AUDIO, AUDIO NR, A/HP SEL, VIDEO2, VIDEO1, PRE/REC/EQ&DAC, V-OUT)
MONITOR LCD
CN7603 0.5mmPICH FPC.CN
MONI_RVS
11
CN7602 0.5mmPICH FPC.CN
MONI BL
CN7601
CN7203 0.5mmPICH FPC.CN
YTU94109-33
YTU94129A-33
VF LCD
VF BL
CN7670
13
CN7651
VF_SW
CN7652
BtoB 0.8mmPICH
CN7650 FPC.CN
12
VF SUB
YTU94074-22
YTU94077-22
CN7202 0.5mmPIT FPC.CN
CN7204
KEY_STOP
GND
KEY_PLAY
KEY_REW
GND
KEY_FF
OPERATION (DECK) UNIT
MENU_OPE
YTU930820
JIG CONN.
CN108 0.8mmPICH BtoB
CN107 0.25mmPICH WtoB
IN_MIC/L
IN_GND
IN_MIC/R
MIC UNIT
MIC (L)
MIC (R)
MECHA
CN101 0.5mm PICH FPC CN
VIDEO HEAD
CN103 0.5mm PICH FPC CN
ROTARY ENCODER SW
YTU94074-6
YTU94077-6
CN104
BtoB H=1.5mm
CN405
04 MDA
CN404 0.5mm PICH FPC CN
LOADING MOTOR
CN403 0.5mm PICH FPC CN
DRUM MOTOR
YTU94074-11
YTU94077-11
CN402 0.5mm PICH FPC CN
CAPSTAN MOTOR
MDA
YTU94074-18
YTU94077-18
CN401 0.5mm PICH FPC CN
SENSOR
YTU94074-15
YTU94077-15
CN106 0.3mmPICH FPC.CN
YTU94109-57
CN601 0.3mmPICH FPC.CN
JA/D-IF
(JACK, DIGITAL-IF)
06
J601 S_OUT
J602 JLIP
EDIT
J8001 DV
CN602 WtoB 1.25mmPICH
SPK+
SPK-
SPEAKER
CN105 0.5mmPICH FPC.CN
CN501 0.5mmPICH FPC.CN
YTU94077-13
J501 AV/HP JACK
J502 EXT MIC JACK
CN205 0.5mmPICH FCP.CN
CN502 0.5mmPICH FCP.CN
STROBE 05
(IR&TALLY, AV/MIC JACK, STROBE)
MAIN2
02
(CPU, A/D, VDR, DSP, IRIS&AF/ZOOM, CDS/TG, STROBE SUB)
CN302 1.25mmPICH WtoB
UNREG_GND
UNREG_GND
EXTINDET
UNREG
UNREG
BATTERY
LITBATT
CN301
CN303 1.25mmPICH WtoB
UNREG
UNREG_GND
POWER SUPPLY JIG
YTU94143A
03
REG
W/B
09
GND
IR_OUT
IR_5V
CN210 WtoB 1mmPICH
YTU94074-15
YTU94077-15
CN208 0.5mmPICH FCP.CN
OPERATION (CAMERA) UNIT
ZOOM_SW
D_REG_3V
D_REG_3V
PHOTO_MODE
LED_GND
DIAL_OFF
DIAL_PLAY
DIAL_AUTO
GND
DIAL_MANU
DIAL_PROGRE
DIAL 5S
KEY_C
A
B
C
D
E
F
G
H
1
2
3
4
5

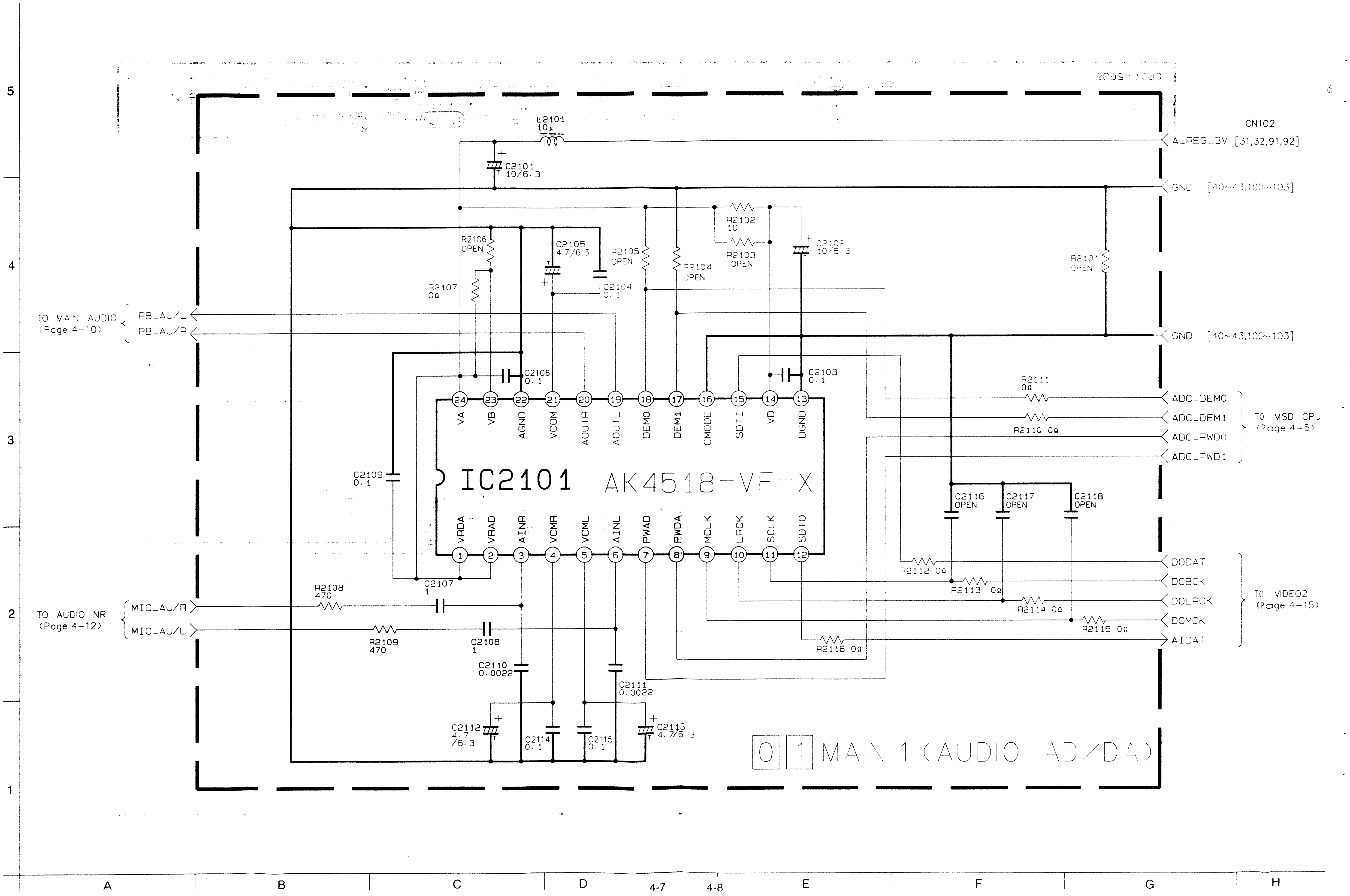
4.2 MSD CPU SCHEMATIC DIAGRAM


0 1 MAIN 1 (MSD CPU)
CN102 (33,93) D_REG_3V
(40~43,100~103) GND
(34~36,94~96) REG_5V
(89,90) REG_2.2V
C1401 10/6.3
C1402 10/6.3
C1403 0.1
C1408 0.1
R1421 15K
R1422 10K
R1417 75K
R1418 330K
R1431 3.3K
R1432 3.3K
R1433 3.3K
R1423 1K
R1424 1K
R1415 22K
R1416 15K
RA1401 1K
R1401 OPEN
R1402 0Ω
Q1401 DTA114EE
Q1402 UM03N
Q1405 DTC143EE
ADC_DEM0
ADC_DEM1
ADC_PWD0
ADC_PWD1
TO AUDIO AD/DA,V-OUT (Page 4-8,22)
AGC_RST
TO JACK CN601 (Page 4-58) (CN106-23) REMO_OUT
TO D-IF CN601 (Page 4-61) CN106 (30) BCLK (32) DC
BLW
RD
ALE
DT15
ADDT14
ADDT13
ADDT12
ADDT11
ADDT10
ADDT09
ADDT08
ADDT07
ADDT06
ADDT05
ADDT04
ADDT03
ADDT02
ADDT01
ADDT00
TO VIDEO2 (Page 4-15,16)
A_PLL
V_PLL
FRP
DIC_STP1
MCVS
TO VIDEO1 (Page 4-17,18)
R1419 0Ω
(OPEN) INF
R1420 OPEN
TSR
HID
SPA
SSP
PWMO
DIC_STP2
TO VIDEO2 (Page 4-15,16)
TO D-IF CN601 (Page 4-61) CN106 (31) DIF_RST (33) DIF_INT
DIC_CLK
DIC_DIO
DRUM_FG
DRUM_PG
TO VIDEO1,VIDEO2 (Page 4-16,18)
IC1401 M31020EA-134VP
DEW_SENS
E_SENS
S_SENS
AVREF
AVCC
VCC2
VSS
AGC_RST
BCLK
DC
R/W
ALE
RD
BLW
BHW
D00
D01/A16
D02/A17
D03/A18
D04/A19
D05/A20
D06/A21
D07/A22
D08/A23
D09/A24
D10/A25
D11/A26
D12/A27
D13/A28
D14/A29
D15/A30
VSS
VCC2
VSS HLDA HOLD RESET
IC1403 TK71230M Vin Vout NP GND
C1416 1
C1417 10/6.3
C1407 0.1
R1410 1K
R1405 1K
R1403 1M
R1404 22
X1401
C1406 0.1
C1410 12P
C1409 12P
R1406 1K
R1407 1K
R1408 1K
R1409 1K
R1434 1.2K
R1411 3.3K
R1412 3.3K
R1413 3.3K
R1414 3.3K
C1411 0.022
C1412 0.022
C1413 0.022
C1414 0.022
C1405 0.1
Q1403 UMC3N
Q1404 UMC3N
C1415 10/6.3
R1429 82
R1430 100
R1427 68K
R1428 68K
R1426 1K
R1425 1K
IC1402 TC7S14FU
RA1403 47K
RA1402 1K
CN102
M16_CS (113)
S_DT_OUT (111)
S_DT_IN (81)
S_CLK (82)
M16_RDY (54)
M16_RST (114)
SLOW (29)
TO CPU CN201 (Page 4-28)
CN104
REEL_LED (17)
TAPE_LED (38,39)
E_SENS (18)
S_SENS (36)
MIC1 (15)
MIC2 (35)
MIC3 (14)
S_REEL (37)
T_REEL (16)
REC_SAFE (34)
TO SENSOR CN405
R1435 0Ω
DRUM_ERR (CN102-67)
CN104
CAP_REF (29)
DRUM_REF (24)
MOTR_GND (GND) (7,8,9)
MDA_OUT (5)
MDA_IN (26)
MDA_CLK (27)
MDA_CS (6)
CAP_BRK (28)
LD_ON (10)
CAP_FG (30)
DRUM_FG (4)
DRUM_PG (25)
TO MDA CN405 (Page 4-49,50)
RF_STAB
RF_FAST
RF_TRICK
TO PRE/REC/EQ&DAC (Page 4-19)
CN103
CAM_SW_C (2)
CAM_SW_B (3)
CAM_SW_A (4)
TO ROTARY ENCODER
DEW_SENS (CN104-21) TO MDA CN405 (Page 4-49)
TALLY (CN102-50)
R1436 470K
R1437 10K
S_DET (CN106-10) TO JACK CN601 (Page 4-59)
R1438 0Ω
P_DET (CN105-8) TO AV/MIC JACK CN501 (Page 4-54)
AV/H_DET
AH_CTL1
AH_CTL2
TO MAIN AUDIO,A/HP SEL (Page 4-10,14)
1
2
3
4
5
A
B
C
D
E
F
G
H

4.4 MAIN AUDIO SCHEMATIC DIAGRAM

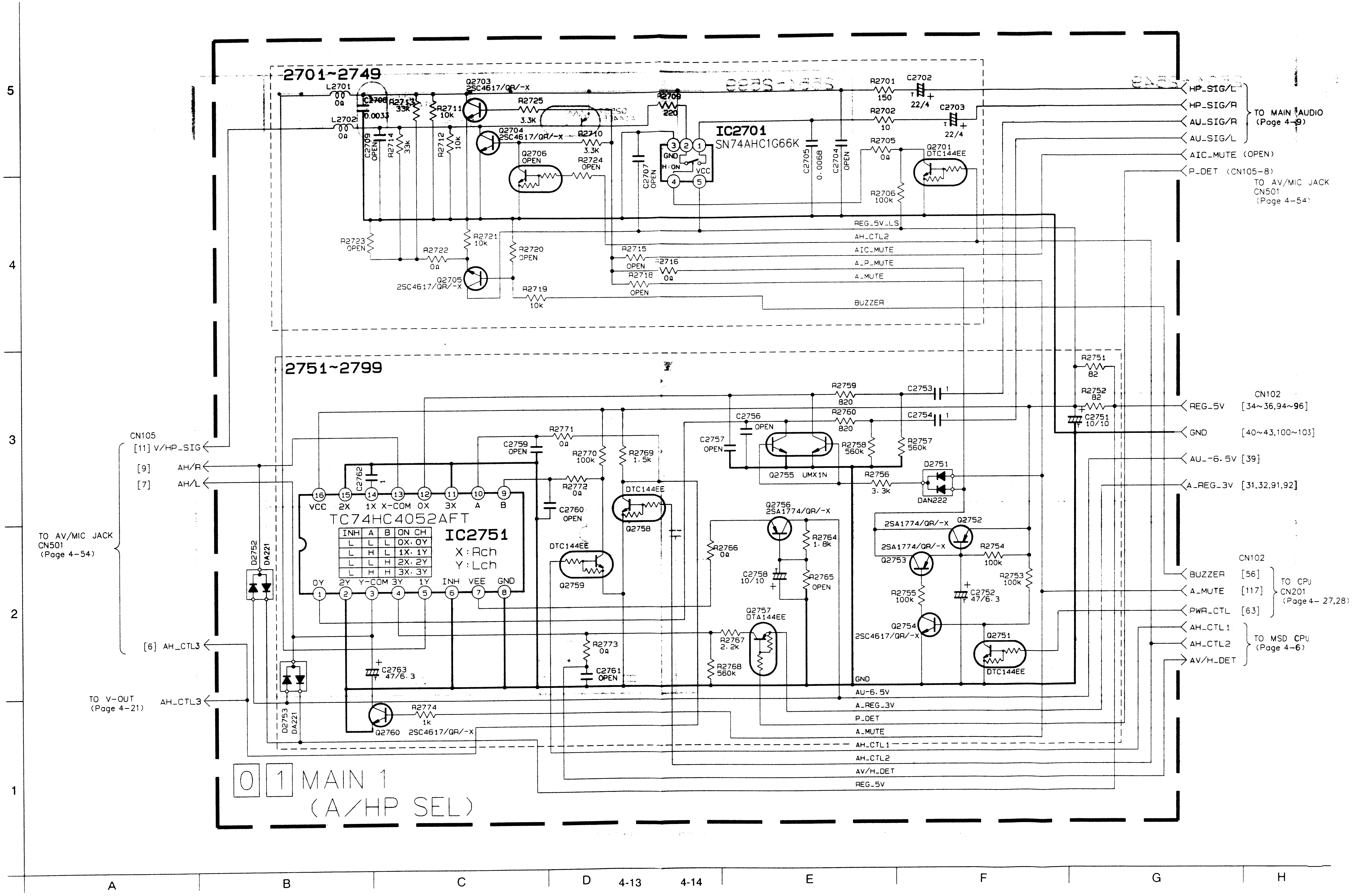

2601~2699
2401~2449
IC2201
BH7760KV
IC2402
TC7S08FU
EXT MIC JACK
CN107
TO MIC UNIT
IN_MIC/L
IN_GND
IN_MIC/R
CN105
TO AV/MIC JACK CN501 (Page 4-54)
EX_GND
EX_MIC/L
EX_MIC/R
EX_DET
(OPEN) AIC_MUTE
TO A/HP SEL (Page 4-14)
AU_SIG/L
AU_SIG/R
HP_SIG/L
HP_SIG/R
CN106
TO SPEAKER
SPK+
SPK-
(CN102-40~43,100~103) GND
CN102
REG_5V [34~36,94~96]
GND (AU_GND) [40~43,100~103]
GND (AO_GND) (OPEN)
SPK_VCC [37,38,97]
LCD_15.2V [98,99]
AL_3V [53]
A_REG_3V [31,32,91,92]
PB_AU/L
PB_AU/R
TO AUDIO AD/DA (Page 4-7)
SHUT_MIX
MIC_EE/L
MIC_EE/R
NRDETSIG
EM_DET
TO AUDIO NR (Page 4-12)
S_SHUT [55]
S_MUTE [115]
BUZZER [56]
AFZ_DATA [58]
AFZ_CLK [118]
AUDIO_CS [59]
TO CPU, DSP CN201 (Page 4-27,28,34)
A_FADER [57]
A_MUTE [117]
S_SPK_ON [119]
AH_CTL2 TO MSD CPU (Page 4-6)
PWR_CTL (OPEN)
01 MAIN (MAIN AUDIO)
A
B
C
D
E
F
G
H
1
2
3
4
5

4.3 AUDIO AD/DA SCHEMATIC DIAGRAM

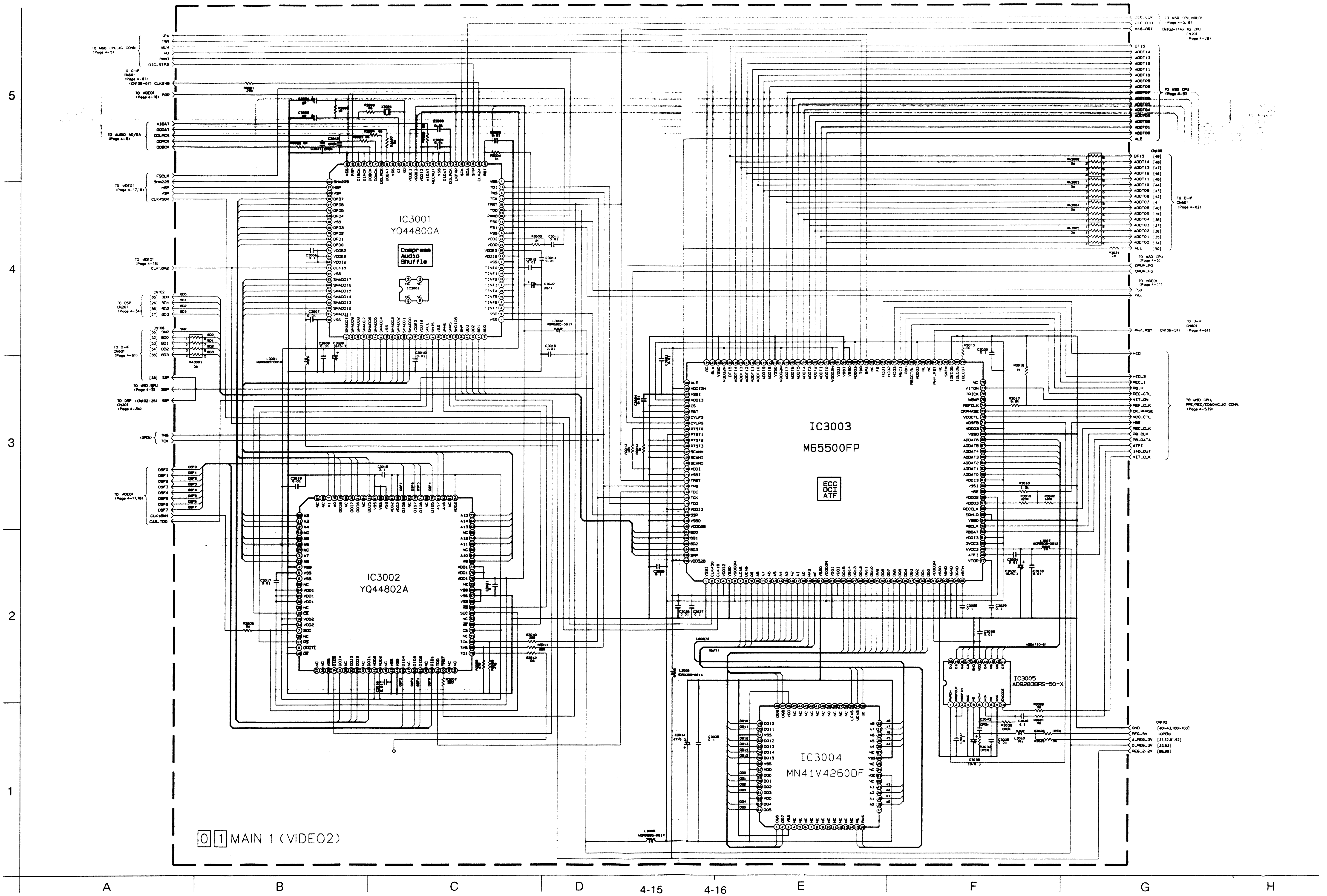


L2101
10μ
C2101
10/6.3
CN102
A_REG_3V [31,32,91,92]
GND [40~43,100~103]
GND [40~43,100~103]
R2102
10
R2103
OPEN
C2102
10/6.3
R2101
OPEN
R2106
OPEN
C2105
4.7/6.3
R2105
OPEN
R2104
OPEN
C2104
0.1
R2107
0Ω
TO MAIN AUDIO
(Page 4-10)
PB_AU/L
PB_AU/R
C2106
0.1
C2103
0.1
R2111
0Ω
ADC_DEMO
ADC_DEM1
ADC_PWDO
ADC_PWD1
R2110 0Ω
TO MSD CPU
(Page 4-5)
VA
VB
AGND
VCOM
AOUTR
AOUTL
DEMO
DEM1
CMODE
SDTI
VD
DGND
C2109
0.1
IC2101
AK4518-VF-X
C2116
OPEN
C2117
OPEN
C2118
OPEN
VRDA
VRAD
AINR
VCMR
VCML
AINL
PWAD
PWDA
MCLK
LRCK
SCLK
SDTO
DODAT
DOBCK
DOLRCK
DOMCK
AIDAT
R2112 0Ω
R2113 0Ω
R2114 0Ω
R2115 0Ω
R2116 0Ω
TO VIDEO2
(Page 4-15)
C2107
1
R2108
470
TO AUDIO NR
(Page 4-12)
MIC_AU/R
MIC_AU/L
R2109
470
C2108
1
C2110
0.0022
C2111
0.0022
C2112
4.7
/6.3
C2114
0.1
C2115
0.1
C2113
4.7/6.3
01 MAIN 1 (AUDIO AD/DA)
5
4
3
2
1
A
B
C
D
E
F
G
H

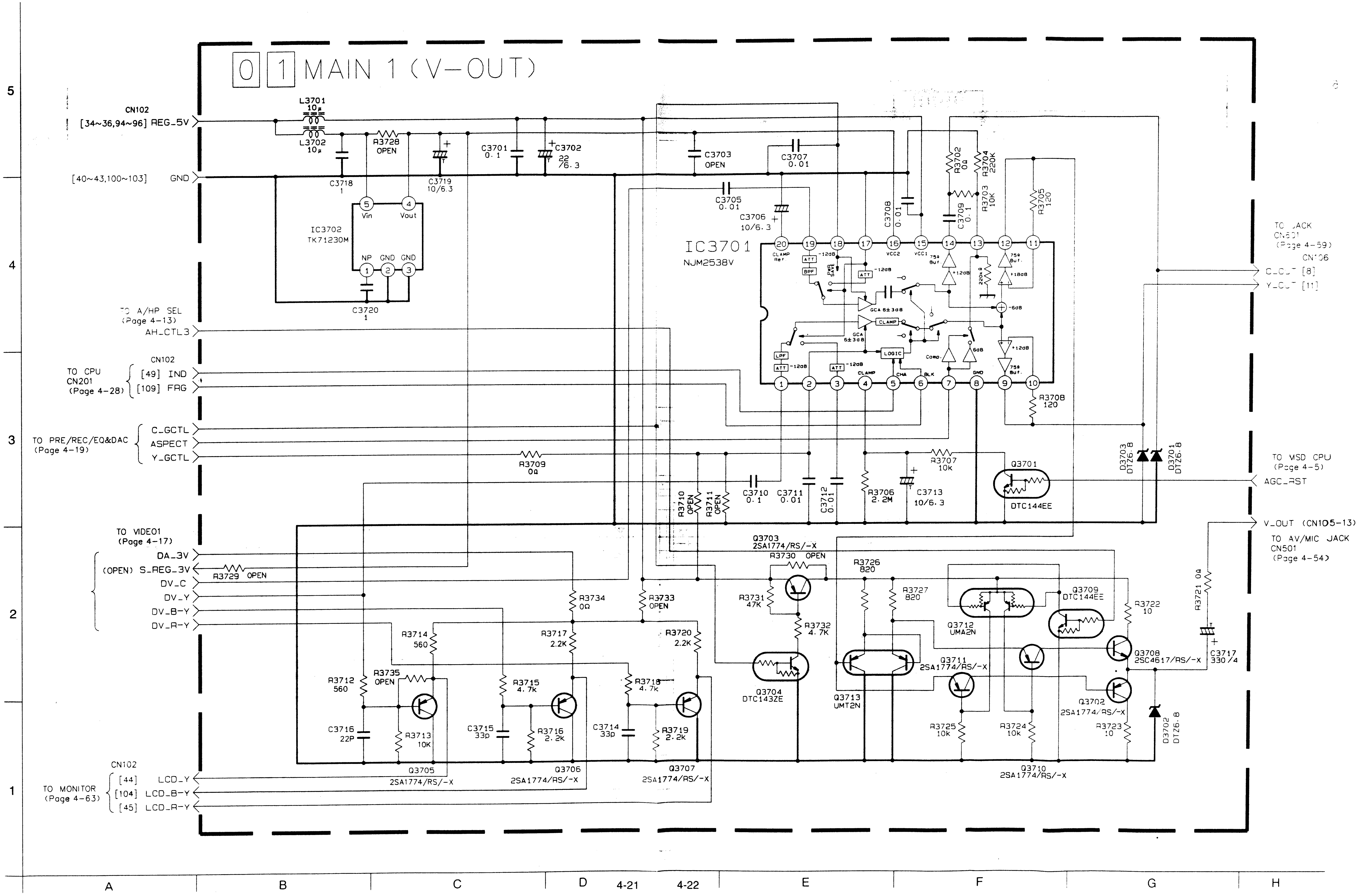
4.6 A/HP SEL SCHEMATIC DIAGRAM


2701~2749
2751~2799
L2701 0Ω
L2702 0Ω
C2708 0.0033
C2709 OPEN
R2713 33k
R2714 33k
R2711 10k
R2712 10k
Q2703 2SC4617/QR/-X
Q2704 2SC4617/QR/-X
Q2706 OPEN
R2725 3.3K
R2710 3.3K
R2724 OPEN
R2709 220
C2707 OPEN
IC2701 SN74AHC1G66K
GND
H:ON
VCC
C2705 0.0068
C2704 OPEN
R2701 150
R2702 10
C2702 22/4
C2703 22/4
R2705 0Ω
R2706 100k
Q2701 DTC144EE
R2723 OPEN
R2722 0Ω
R2721 10k
R2720 OPEN
Q2705 2SC4617/QR/-X
R2719 10k
R2715 OPEN
R2716 0Ω
R2718 OPEN
REG_5V_LS
AH_CTL2
AIC_MUTE
A_P_MUTE
A_MUTE
BUZZER
HP_SIG/L
HP_SIG/R
AU_SIG/R
AU_SIG/L
TO MAIN AUDIO (Page 4-9)
AIC_MUTE (OPEN)
P_DET (CN105-8)
TO AV/MIC JACK CN501 (Page 4-54)
R2751 82
R2752 82
C2751 10/10
CN102
REG_5V [34~36,94~96]
GND [40~43,100~103]
AU_-6.5V [39]
A_REG_3V [31,32,91,92]
BUZZER [56]
A_MUTE [117]
PWR_CTL [63]
TO CPU CN201 (Page 4-27,28)
AH_CTL1
AH_CTL2
AV/H_DET
TO MSD CPU (Page 4-6)
CN105
[11] V/HP_SIG
[9] AH/R
[7] AH/L
[6] AH_CTL3
TO AV/MIC JACK CN501 (Page 4-54)
TO V-OUT (Page 4-21)
AH_CTL3
D2752 DA221
D2753 DA221
C2762 1
VCC 2X 1X X-COM 0X 3X A B
TC74HC4052AFT
IC2751
X:Rch
Y:Lch
INH A B ON CH
L L L 0X·0Y
L H L 1X·1Y
L L H 2X·2Y
L H H 3X·3Y
0Y 2Y Y-COM 3Y 1Y INH VEE GND
C2763 47/6.3
Q2760 2SC4617/QR/-X
R2774 1k
C2759 OPEN
R2771 0Ω
R2770 100k
R2769 1.5k
R2772 0Ω
C2760 OPEN
DTC144EE
Q2758
Q2759
R2773 0Ω
C2761 OPEN
C2756 OPEN
C2757 OPEN
R2759 820
R2760 820
C2753 1
C2754 1
R2758 560k
R2757 560k
Q2755 UMX1N
R2756 3.3k
D2751 DAN222
Q2756 2SA1774/QR/-X
R2766 0Ω
R2764 1.8k
C2758 10/10
R2765 OPEN
Q2757 DTA144EE
R2767 2.2k
R2768 560k
Q2752 2SA1774/QR/-X
Q2753 2SA1774/QR/-X
R2754 100k
R2753 100k
R2755 100k
C2752 47/6.3
Q2754 2SC4617/QR/-X
Q2751 DTC144EE
GND
AU-6.5V
A_REG_3V
P_DET
A_MUTE
AH_CTL1
AH_CTL2
AV/H_DET
REG_5V
01 MAIN 1 (A/HP SEL)
5
4
3
2
1
A
B
C
D
E
F
G
H

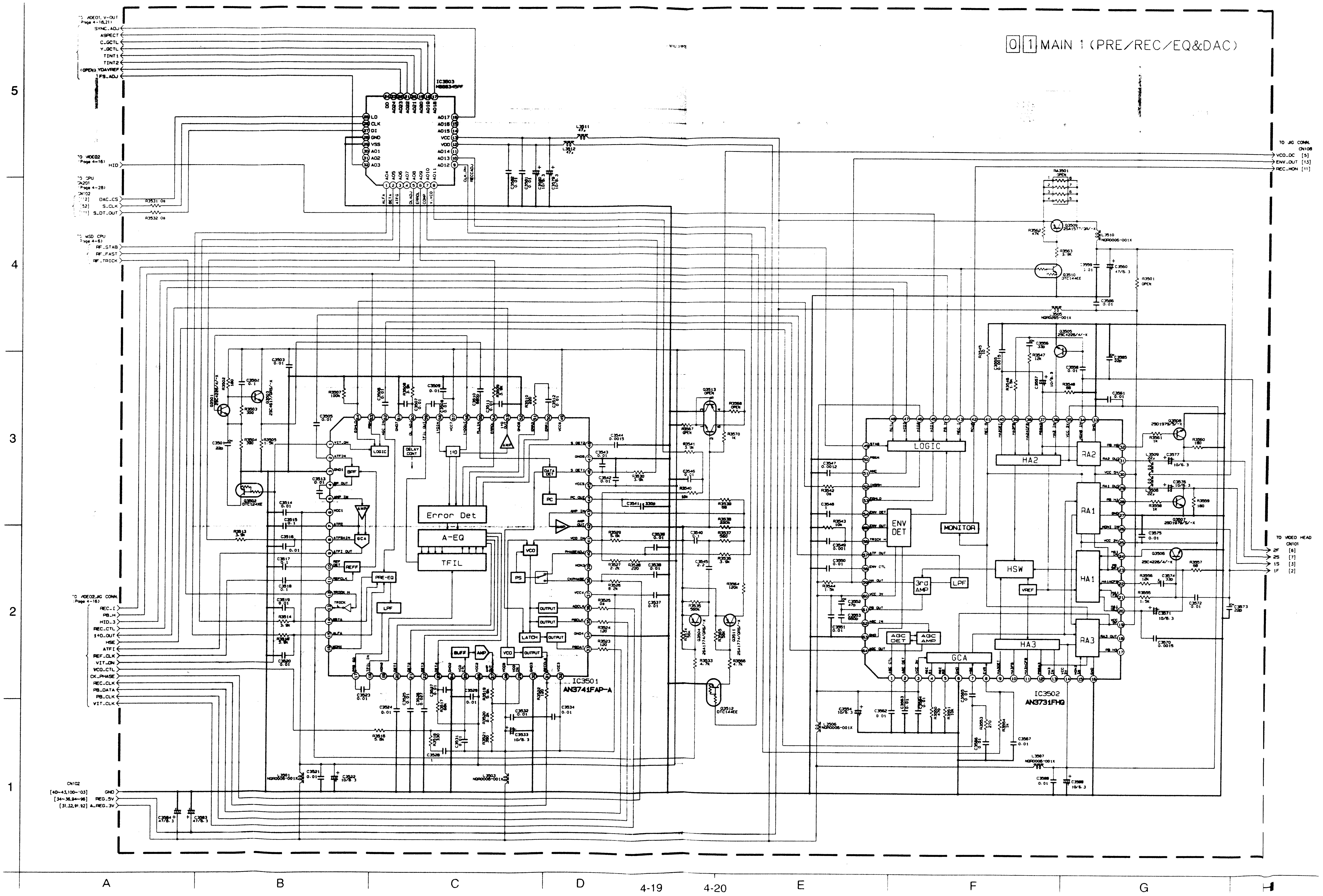
4.7 VIDEO 2 SCHEMATIC DIAGRAM


IC3001
YQ44800A
Compress Audio Shuffle
IC3002
YQ44802A
IC3003
M65500FP
ECC DCT ATF
IC3004
MN41V4260DF
IC3005
AD9283BRS-50-X
0 1 MAIN 1 (VIDEO2)
TO AUDIO AD/DA (Page 4-8)
TO VIDEO1 (Page 4-18)
TO VIDEO1 (Page 4-17,18)
TO DSP CN201 (Page 4-34)
TO D-IF CN601 (Page 4-61)
TO MSD CPU (Page 4-57)
TO D-IF CN601 (Page 4-62)
TO MSD CPU PRE/REC/EQ&DAC,JG CONN (Page 4-5,19)
CN102
CN106
GND
REG_5V
A_REG_3V
D_REG_3V
REG_2.2V
A
B
C
D
E
F
G
H
1
2
3
4
5

4.10 V-OUT SCHEMATIC DIAGRAM


0 1 MAIN 1 (V-OUT)
CN102
[34~36,94~96] REG_5V
[40~43,100~103] GND
L3701 10μ
L3702 10μ
R3728 OPEN
C3718 1
C3719 10/6.3
C3701 0.1
C3702 22 /6.3
C3703 OPEN
C3707 0.01
C3705 0.01
C3706 10/6.3
C3708 0.01
C3709 0.1
R3702 0Ω
R3704 220K
R3703 10K
R3705 120
IC3702 TK71230M
Vin
Vout
NP
GND
GND
C3720 1
IC3701 NJM2538V
CLAMP Ref
VCC2
VCC1
75Ω Buf
ATT
BPF
GCA 6±3dB
CLAMP
LPF
LOGIC
Comp
GND
-12dB
+12dB
+18dB
-6dB
6dB
CHA
BLK
R3708 120
TO A/HP SEL (Page 4-13)
AH_CTL3
TO CPU CN201 (Page 4-28)
CN102
[49] IND
[109] FRG
TO PRE/REC/EQ&DAC (Page 4-19)
C_GCTL
ASPECT
Y_GCTL
R3709 0Ω
R3710 OPEN
R3711 OPEN
C3710 0.1
C3711 0.01
C3712 0.01
R3706 2.2M
C3713 10/6.3
R3707 10k
Q3701 DTC144EE
D3703 DTZ6.8
D3701 DTZ6.8
TO JACK CN501 (Page 4-59)
CN106
C_OUT [8]
Y_OUT [11]
TO MSD CPU (Page 4-5)
AGC_RST
V_OUT (CN105-13)
TO AV/MIC JACK CN501 (Page 4-54)
TO VIDEO1 (Page 4-17)
DA_3V
(OPEN) S_REG_3V
R3729 OPEN
DV_C
DV_Y
DV_B-Y
DV_R-Y
R3734 0Ω
R3733 OPEN
R3714 560
R3717 2.2K
R3720 2.2K
R3712 560
R3735 OPEN
R3715 4.7k
R3718 4.7k
C3716 22P
R3713 10K
C3715 33p
R3716 2.2k
C3714 33p
R3719 2.2k
Q3705 2SA1774/RS/-X
Q3706 2SA1774/RS/-X
Q3707 2SA1774/RS/-X
Q3703 2SA1774/RS/-X
R3730 OPEN
R3731 47K
R3732 4.7K
Q3704 DTC143ZE
R3726 820
R3727 820
Q3713 UMT2N
Q3712 UMA2N
Q3711 2SA1774/RS/-X
Q3709 DTC144EE
R3722 10
Q3708 2SC4617/RS/-X
Q3702 2SA1774/RS/-X
R3725 10k
R3724 10k
R3723 10
Q3710 2SA1774/RS/-X
D3702 DTZ6.8
R3721 0Ω
C3717 330/4
CN102
TO MONITOR (Page 4-63)
[44] LCD_Y
[104] LCD_B-Y
[45] LCD_R-Y
5
4
3
2
1
A
B
C
D
E
F
G
H

4.9 PRE/REC/EQ & DAC SCHEMATIC DIAGRAM


0 1 MAIN 1 (PRE/REC/EQ&DAC)
TO VIDEO1, V-OUT (Page 4-18,21)
SYNC_ADJ
ASPECT
C_GCTL
Y_GCTL
TINT1
TINT2
(OPEN) YDAVREF
FS_ADJ
IC3503
TO VIDEO2 (Page 4-16)
HID
TO CPU CN201 (Page 4-28)
CN102
DAC_CS
S_CLK
S_DT_OUT
R3531 0Ω
R3532 0Ω
TO MSD CPU (Page 4-6)
RF_STAB
RF_FAST
RF_TRICK
TO VIDEO2,JIG CONN. (Page 4-16)
REC_I
PB_H
HID_3
REC_CTL
1+D_OUT
HSE
ATFI
REF_CLK
VIT_ON
VCO_CTL
CK_PHASE
REC_CLK
PB_DATA
PB_CLK
VIT_CLK
CN102
[40~43,100~103] GND
[34~36,94~96] REG_5V
[31,32,91,92] A_REG_3V
C3584 47/6.3
C3583 47/6.3
L3501 NQR0006-001X
C3521 0.01
C3522 10/6.3
LOGIC
DELAY CONT
1H
AMP
BPF
GCA
REFF
PRE-EQ
LPF
Error Det
A-EQ
TFIL
DATA DET
PC
VCO
PS
OUTPUT
LATCH
BUFF
IC3501
AN3741FAP-A
L3503 NQR0006-001X
Q3512 DTC144EE
LOGIC
ENV DET
MONITOR
3rd AMP
LPF
HSW
VREF
AGC DET
AGC AMP
GCA
HA2
HA3
RA2
RA1
HA1
RA3
IC3502
AN3731FHQ
TO JIG CONN. CN108
VCO_DC [5]
ENV_OUT [13]
REC_MON [11]
TO VIDEO HEAD CN101
2F [6]
2S [7]
1S [3]
1F [2]
5
4
3
2
1
A
B
C
D
E
F
G
H

COMPONENT PARTS LOCATION GUIDE (MAIN1)

REF.No.	LOCATION		
CAPACITOR			
C1401	A	C	1C
C1402	A	C	1C
C1403	A	C	2D
C1404	A	C	1D
C1405	A	C	1D
C1406	A	C	1C
C1407	A	C	2C
C1408	A	C	2C
C1409	A	C	1C
C1410	A	C	1C
C1411	A	C	1D
C1412	A	C	1D
C1413	A	C	1D
C1414	A	C	1D
C1415	A	C	1C
C1416	A	C	1C
C1417	A	C	1C
C2101	B	C	2C
C2102	B	C	2B
C2103	B	C	2B
C2104	B	C	2B
C2105	B	C	2B
C2106	B	C	2C
C2107	B	C	1C
C2108	B	C	1C
C2109	B	C	1C
C2110	B	C	1C
C2111	B	C	1B
C2112	B	C	1C
C2113	B	C	1B
C2114	B	C	1B
C2115	B	C	1B
C2116	B	C	1B
C2117	B	C	1B
C2118	B	C	1B
C2201	B	C	2D
C2202	B	C	2D
C2203	B	C	2D
C2204	B	C	2D
C2205	B	C	2D
C2206	B	C	1C
C2207	B	C	2C
C2208	B	C	2C
C2209	B	C	2D
C2210	B	C	2D
C2211	B	C	2C
C2212	B	C	2C
C2213	B	C	2C
C2214	B	C	2C
C2215	B	C	2D
C2216	B	C	2D
C2217	B	C	2D
C2218	B	C	2D
C2219	B	C	2D
C2220	B	C	2D
C2221	B	C	1C
C2222	B	C	1C
C2223	B	C	2D
C2224	B	C	2D
C2225	B	C	2D
C2226	B	C	2D
C2237	B	C	2D
C2238	B	C	2D
C2239	B	C	2D
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C2241	B	C	2D
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C3712	A	C	2C
C3713	A	C	2C
C3714	B	C	1C
C3715	B	C	1C
C3716	B	C	1C
C3717	A	C	2D
C3718	A	C	1B
C3719	A	C	1B
C3720	A	C	1B
CONNECTOR			
CN101	A	C	3C
CN102	A	C	1B
CN103	B	C	1D
CN104	A	C	3B
CN105	A	C	1D
CN106	A	C	3D
CN107	B	C	3D
CN108	A	C	1A
DIODE			
D2201	B	C	2D
D2551	B	C	3C
D2552	B	C	3C
D2553	B	C	2C
D2751	B	C	1C
D2752	A	C	2D
D2753	A	C	2D
D3701	A	C	3D
D3702	A	C	2D
D3703	A	C	2D
IC			
IC1401	A	C	1D
IC1402	A	C	1C
IC1403	A	C	1C
IC2101	B	C	2B
IC2201	B	C	2D
IC2402	A	C	2D
IC2501	B	C	2C
IC2502	B	C	1C
IC2551	B	C	3C
IC2701	B	C	1D
IC2751	B	C	1D
IC3001	A	C	1B
IC3002	A	C	1A
IC3003	B	C	2B
IC3004	B	C	2A
IC3005	B	C	3A
IC3201	B	C	1B
IC3202	B	C	1A
IC3501	A	C	2A
IC3502	A	C	2C
IC3503	A	C	2B
IC3701	A	C	2C
IC3702	A	C	1B
COIL			
L1401	A	C	1C
L2101	B	C	2C
L2201	B	C	2D
L2401	A	C	2D
L2402	A	C	1D
L2403	A	C	1D
L2404	A	C	1D
L2601	B	C	2D
L2602	B	C	3D
L2603	B	C	2D
L2701	B	C	1D
L2702	B	C	2D
L3001	A	C	1A
L3002	A	C	1A
L3005	B	C	3C
L3006	B	C	3B
L3007	B	C	3A
L3010	B	C	3A
L3201	B	C	1B
L3202	B	C	1C
L3204	B	C	1B
L3207	B	C	1B
L3208	B	C	2A
L3209	B	C	1A
L3501	A	C	2A
L3503	A	C	3A
L3505	A	C	2B
L3506	A	C	2B
L3507	A	C	2C
L3508	A	C	2C
L3509	A	C	2B
L3510	A	C	3B
L3511	A	C	3A
L3512	A	C	3A
L3701	A	C	1C
L3702	A	C	1B
TRANSISTOR			
Q1401	A	C	2D
Q1402	A	C	2D
Q1403	A	C	1C
Q1404	A	C	1C
Q1405	A	C	2C
Q2201	B	C	1C
Q2202	B	C	2C
Q2204	B	C	1C
Q2205	B	C	1C
Q2206	B	C	2D
Q2207	B	C	1C
Q2401	A	C	2D
Q2551	B	C	3C
Q2552	B	C	2C
Q2553	B	C	2C
Q2554	B	C	2C
Q2555	B	C	2C
Q2556	B	C	2C
Q2557	B	C	2C
Q2558	B	C	2C
Q2559	B	C	2C
Q2560	B	C	2C
Q2561	B	C	2C
Q2601	B	C	3D
Q2602	B	C	3D
Q2603	B	C	3D
Q2604	B	C	3D
Q2605	B	C	3D
Q2701	B	C	1D
Q2703	B	C	1D
Q2704	B	C	1D
Q2705	B	C	1D
Q2706	B	C	1D
Q2751	B	C	1D
Q2752	B	C	1D
Q2753	B	C	1D
Q2754	B	C	1D
Q2755	B	C	2D

REF.No.	LOCATION		
Q2756	B	C	1D
Q2757	B	C	1D
Q2758	B	C	1D
Q2759	B	C	1D
Q2760	B	C	1D
Q3201	B	C	2B
Q3202	B	C	2B
Q3203	B	C	1B
Q3204	B	C	2B
Q3501	A	C	1A
Q3502	A	C	1A
Q3503	A	C	2A
Q3504	A	C	3A
Q3505	A	C	2B
Q3506	A	C	3C
Q3507	A	C	3C
Q3508	A	C	3C
Q3509	A	C	3B
Q3510	A	C	3B
Q3511	A	C	3A
Q3512	A	C	3A
Q3513	A	C	3A
Q3701	A	C	2D
Q3702	A	C	3D
Q3703	A	C	3C
Q3704	A	C	3C
Q3705	B	C	1C
Q3706	B	C	1C
Q3707	B	C	1C
Q3708	A	C	3D
Q3709	A	C	3C
Q3710	A	C	3C
Q3711	A	C	3D
Q3712	A	C	3C
Q3713	A	C	3C

RESISTOR

REF.No.	LOCATION		
R1401	A	C	2D
R1402	A	C	2D
R1403	A	C	1C
R1404	A	C	1C
R1405	A	C	2C
R1406	A	C	1D
R1407	A	C	1D
R1408	A	C	1D
R1409	A	C	1D
R1410	A	C	2C
R1411	A	C	1D
R1412	A	C	1D
R1413	A	C	1D
R1414	A	C	1D
R1415	A	C	1D
R1416	A	C	1D
R1417	A	C	2D
R1418	A	C	2D
R1419	A	C	1D
R1420	A	C	1D
R1421	A	C	2D
R1422	A	C	2D
R1423	A	C	2D
R1424	A	C	2D
R1425	A	C	1C
R1426	A	C	1C
R1427	A	C	1C
R1428	A	C	1C
R1429	A	C	1C
R1430	A	C	1C
R1431	A	C	2D
R1432	A	C	2D
R1433	A	C	2D
R1434	A	C	1D
R1435	A	C	1D
R1436	A	C	1D
R1437	A	C	1D
R1438	A	C	1D
R2101	B	C	2B
R2102	B	C	2B
R2103	B	C	2B
R2104	B	C	2B
R2105	B	C	2B
R2106	B	C	2B
R2107	B	C	2C
R2108	B	C	1C
R2109	B	C	2C
R2110	B	C	2B
R2111	B	C	2B
R2112	B	C	2B
R2113	B	C	1B
R2114	B	C	1B
R2115	B	C	1B
R2116	B	C	1B
R2201	B	C	1C
R2202	B	C	1C
R2203	B	C	1C
R2204	B	C	1C
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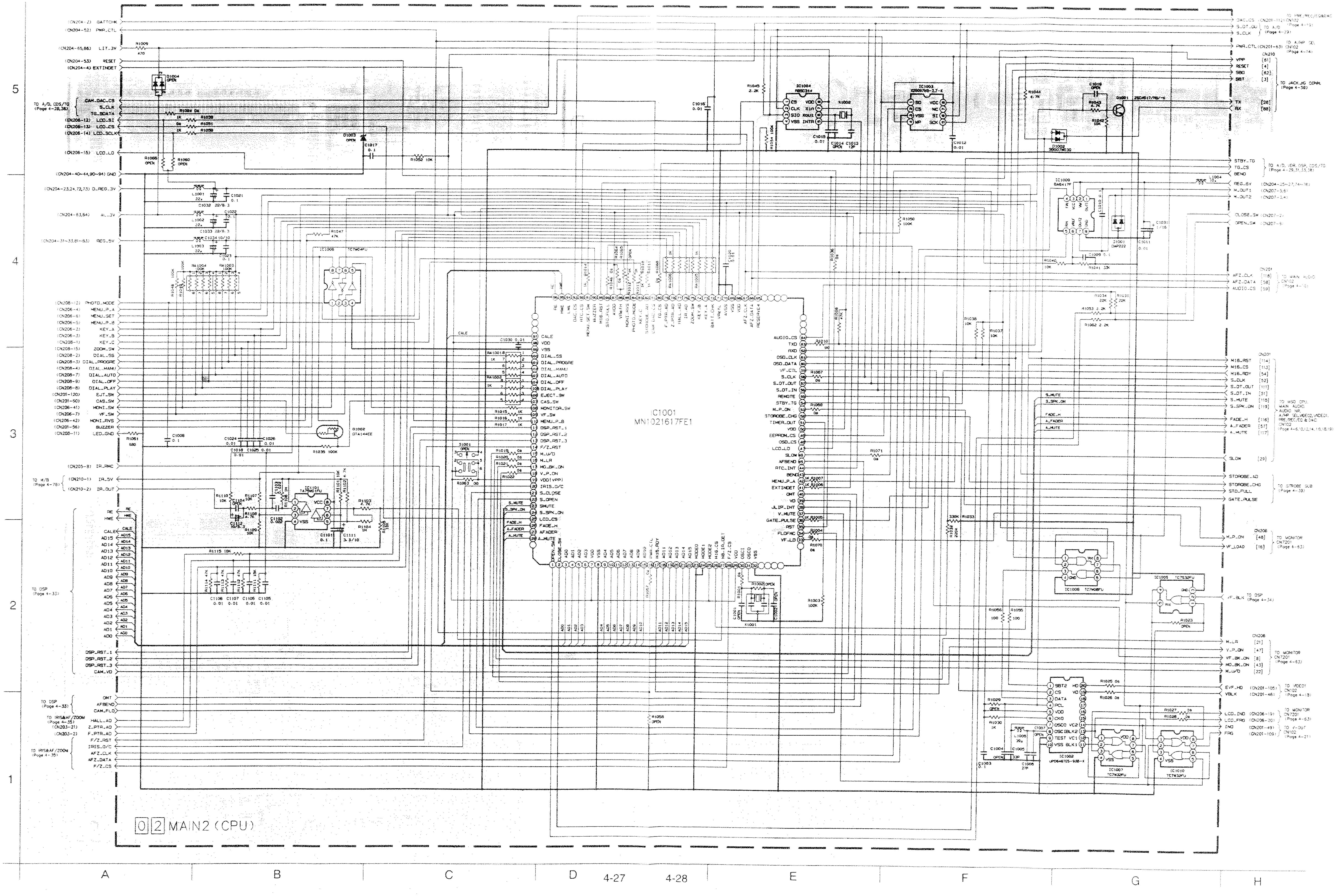
R2770	B	C	1D
R2771	B	C	1D
R2772	B	C	1D
R2773	B	C	1D
R2774	B	C	1D
R3001	A	C	2B
R3002	A	C	2B
R3003	A	C	2B
R3004	A	C	2A
R3005	A	C	1A
R3006	A	C	1A
R3007	A	C	1A
R3008	A	C	1A
R3009	A	C	1A
R3010	A	C	1A
R3011	A	C	1A
R3012	A	C	1A
R3013	B	C	3C
R3014	B	C	3C
R3015	B	C	3A
R3016	B	C	3A
R3017	B	C	3A
R3018	B	C	2A
R3019	B	C	2A
R3020	B	C	3A
R3021	B	C	3A
R3022	B	C	2A
R3023	A	C	1B
R3024	A	C	1B
R3025	A	C	2B
R3026	A	C	2B
R3027	A	C	2B
R3028	B	C	3A
R3029	B	C	3A
R3030	B	C	3A
R3031	A	C	2D
R3032	B	C	3A
R3203	B	C	1B
R3204	B	C	1B
R3205	B	C	1B
R3206	B	C	1C
R3207	B	C	1C
R3208	B	C	1B
R3210	B	C	1B
R3211	B	C	1B
R3212	B	C	1B
R3213	B	C	2B
R3214	B	C	2B
R3217	B	C	2B
R3218	B	C	1B
R3219	B	C	2B
R3220	B	C	2B
R3221	B	C	2B
R3222	B	C	2B
R3223	B	C	2B
R3224	B	C	1B
R3225	B	C	1B
R3226	B	C	1B
R3227	B	C	1B
R3228	B	C	1B
R3229	B	C	1B
R3230	B	C	1A
R3231	B	C	1B
R3232	B	C	1B
R3233	B	C	1B
R3234	B	C	1B
R3235	B	C	1A
R3236	B	C	1A
R3237	B	C	1A
R3238	B	C	1B
R3239	B	C	1B
R3240	B	C	1A
R3241	B	C	2B
R3242	B	C	2B
R3501	A	C	2B
R3502	A	C	2A
R3503	A	C	1A
R3504	A	C	2A
R3505	A	C	2A
R3507	A	C	2A
R3508	A	C	2A
R3509	A	C	2A
R3510	A	C	2A
R3513	A	C	2A
R3514	A	C	2A
R3515	A	C	2A
R3516	A	C	2A
R3517	A	C	2B
R3518	A	C	2B
R3519	A	C	2B
R3520	A	C	2B
R3521	A	C	2B
R3522	A	C	2B
R3523	A	C	2A
R3524	A	C	2A
R3525	A	C	2A
R3526	A	C	2A
R3527	A	C	2A
R3528	A	C	2A
R3529	A	C	2A
R3530	A	C	2A
R3531	A	C	2B
R3532	A	C	2B
R3533	A	C	3A
R3534	A	C	3A
R3535	A	C	3A
R3536	A	C	2A
R3537	A	C	2A
R3538	A	C	2A
R3539	A	C	2A
R3540	A	C	2A
R3541	A	C	2A
R3542	A	C	2C
R3543	A	C	2C
R3544	A	C	2C
R3545	A	C	2B
R3546	A	C	2B
R3547	A	C	2B
R3548	A	C	2B
R3550	A	C	2C
R3551	A	C	2C
R3553	A	C	2C
R3554	A	C	2C
R3555	A	C	2C
R3556	A	C	2C
R3557	A	C	2C
R3558	A	C	2C
R3559	A	C	3C
R3560	A	C	3C
R3561	A	C	2C
R3562	A	C	3B
R3563	A	C	3B
R3564	A	C	3A
R3565	A	C	3A
R3566	A	C	3A
R3567	A	C	3A
R3568	A	C	3A
R3570	A	C	3A
R3702	A	C	2D
R3703	A	C	2C
R3704	A	C	2D
R3705	A	C	2D
R3706	A	C	2C
R3707	A	C	2C
R3708	A	C	2D
R3709	A	C	2C
R3710	A	C	2C
R3711	A	C	2C
R3712	B	C	1C
R3713	B	C	1C
R3714	B	C	1C
R3715	B	C	1C
R3716	B	C	1C
R3717	B	C	1C
R3718	B	C	1C
R3719	B	C	1C
R3720	B	C	1C
R3721	A	C	2D
R3722	A	C	3D
R3723	A	C	3D
R3724	A	C	3C
R3725	A	C	3C
R3726	A	C	3C
R3727	A	C	3C
R3728	A	C	1B
R3729	A	C	1B
R3730	A	C	3C
R3731	A	C	3C
R3732	A	C	3C
R3733	B	C	1C
R3734	B	C	1C
R3735	B	C	1C
RA1401	A	C	2D
RA1402	A	C	1C
RA1403	A	C	1C
RA3001	A	C	2D
RA3002	A	C	2D
RA3003	A	C	2D
RA3004	A	C	2D
RA3005	A	C	2D
RA3201	B	C	1A
RA3202	B	C	1A
RA3203	B	C	1A
RA3501	A	C	3B

OTHER

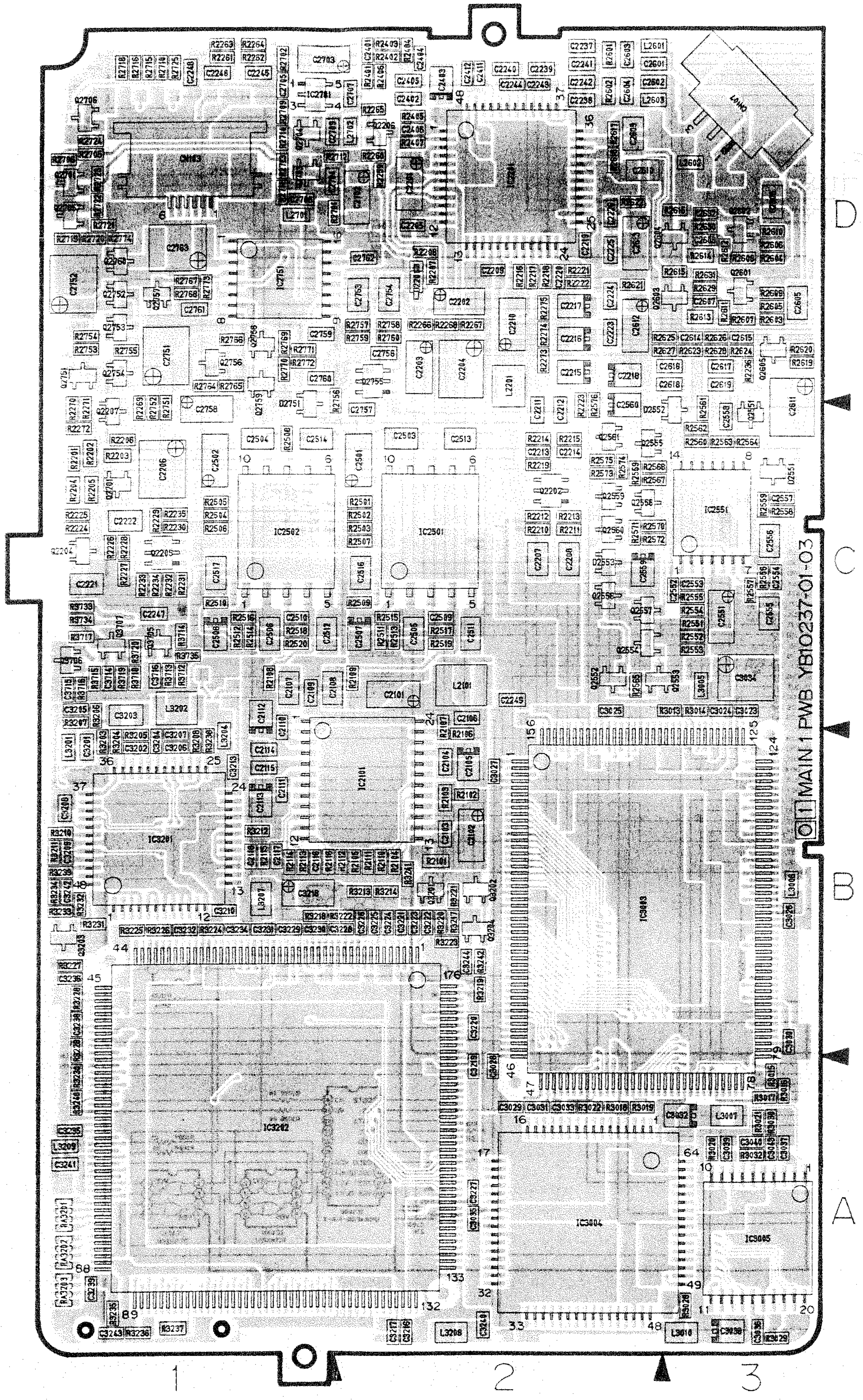
X1401	A	C	1C
X3001	A	C	2B

4.12 CPU SCHEMATIC DIAGRAM

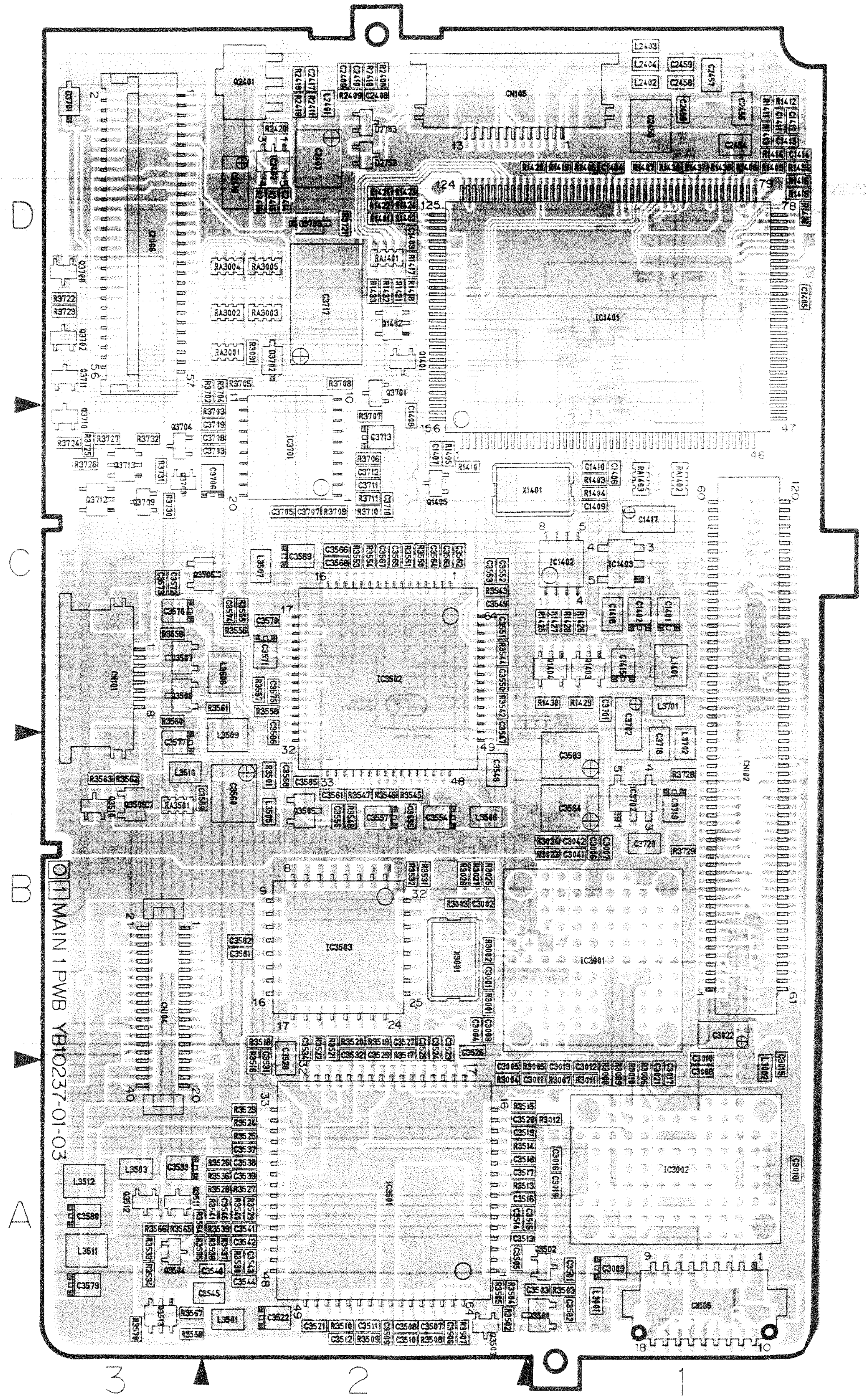

IC1001
MN1021617FE1
IC1004
IC1003
IC1009
BA6417F
IC1005
TC7W04FU
IC1101
IC1002
UPD6461GS-938-1
IC1006
TC7W08FU
IC1007
TC7W32FU
IC1010
TC7W32FU
Q1001
Q1002
DTA144EE
X1001
D1002
D1003
D1004
OPEN
TO A/D, CDS/TG
TO JACK,JIG CONN.
TO A/D, VDR, OSP, CDS/TG
TO MAIN AUDIO
TO MSD CPU
TO STROBE SUB
TO MONITOR
TO DSP
TO VIDEO1
TO V-OUT
TO IRIS&AF/ZOOM
TO A/B
0 2 MAIN2 (CPU)
5
4
3
2
1
A
B
C
D
E
F
G
H

MAIN1 CIRCUIT BOARD

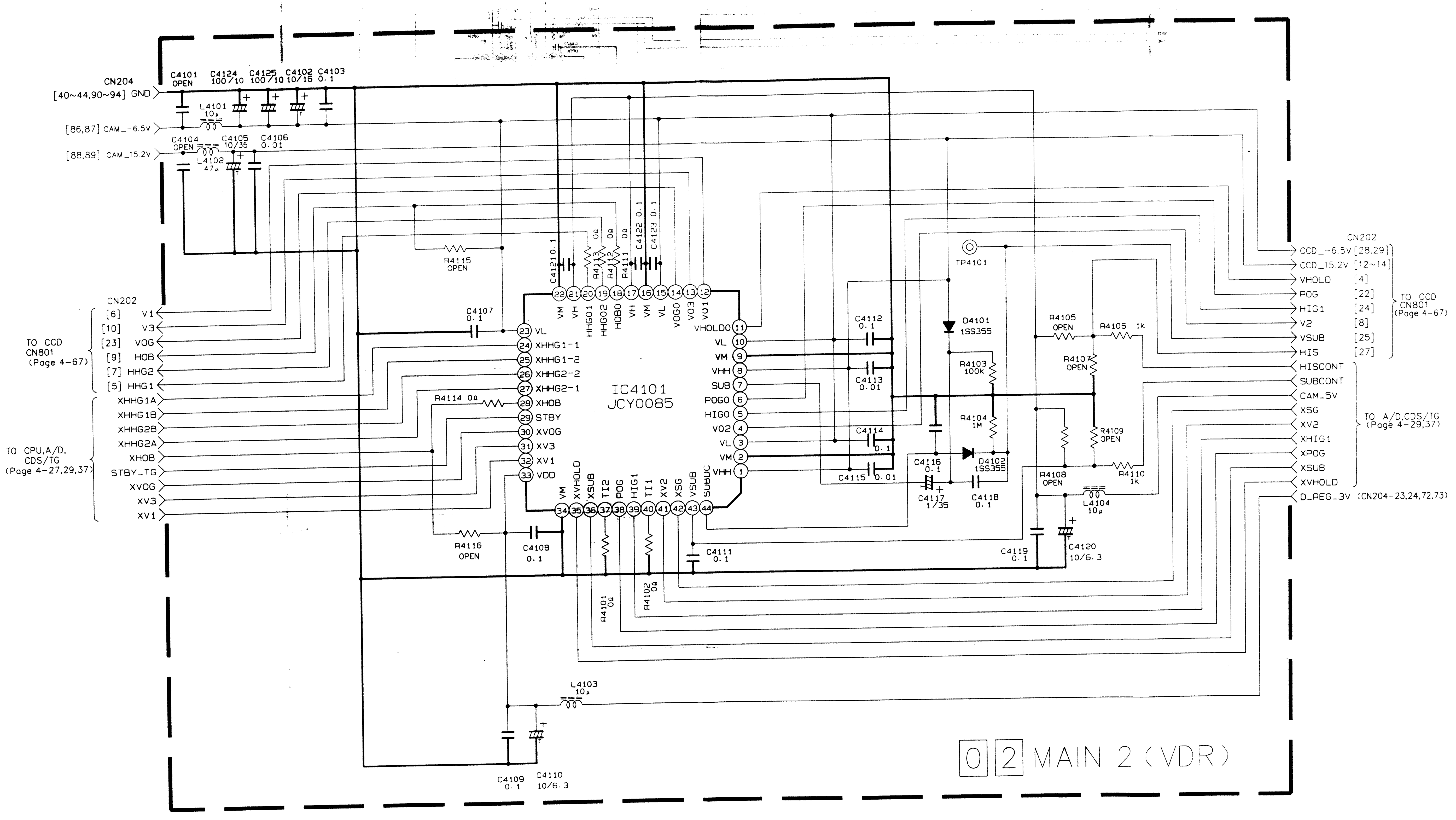
FOIL SIDE (B)


D
C
B
A
1
2
3
MAIN 1 PWB YB10237-01-03
IC2101
IC2201
IC2501
IC2502
IC2551
IC3201
IC3202
IC3003
IC3004
IC3005
CN103

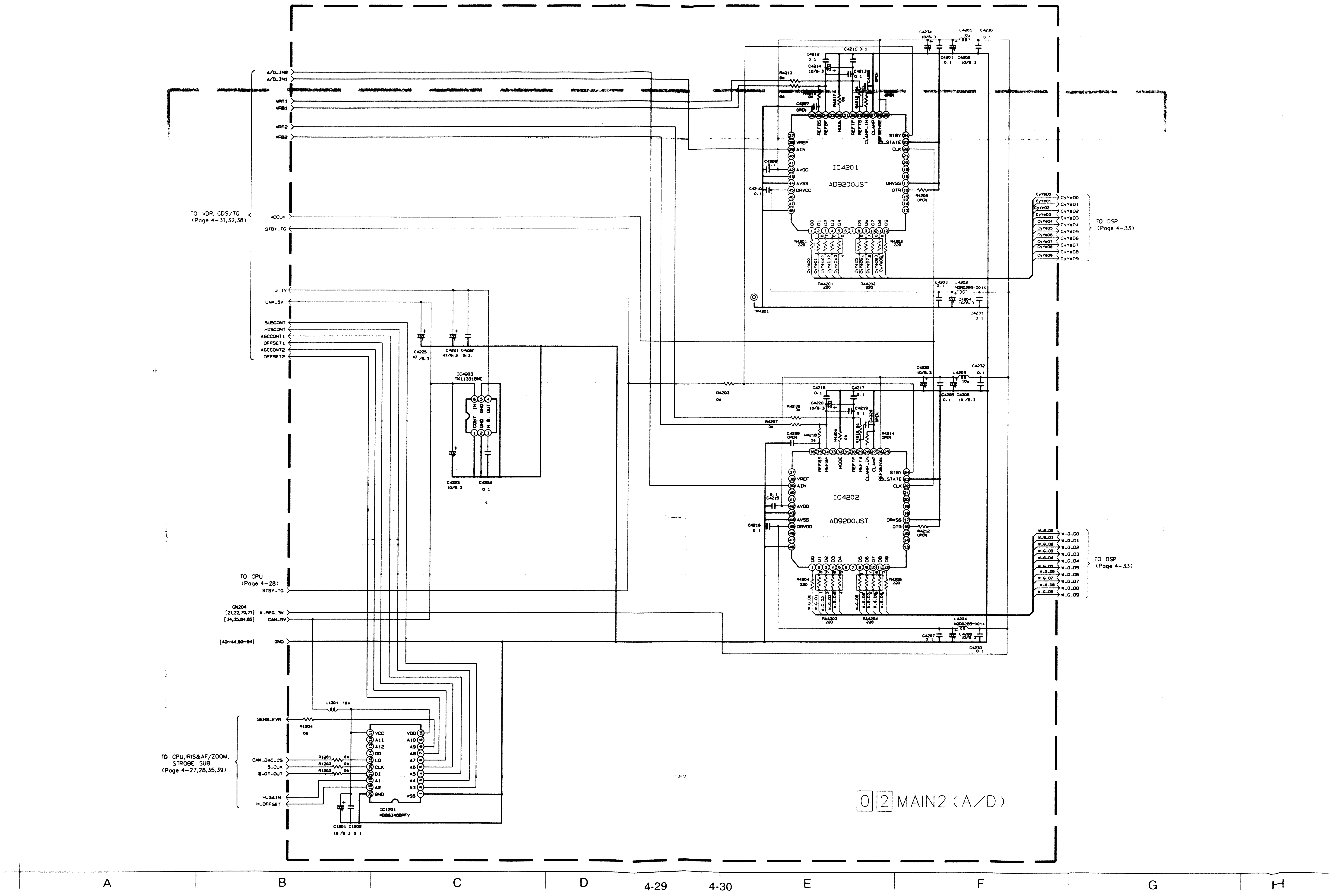
COMPONENT SIDE (A)


D
C
B
A
3
2
1
MAIN 1 PWB YB10237-01-03
CN105
IC1401
IC1402
IC1403
IC3101
IC3501
IC3502
IC3503
IC3001
IC3002
CN102
CN104
CN106
X1401

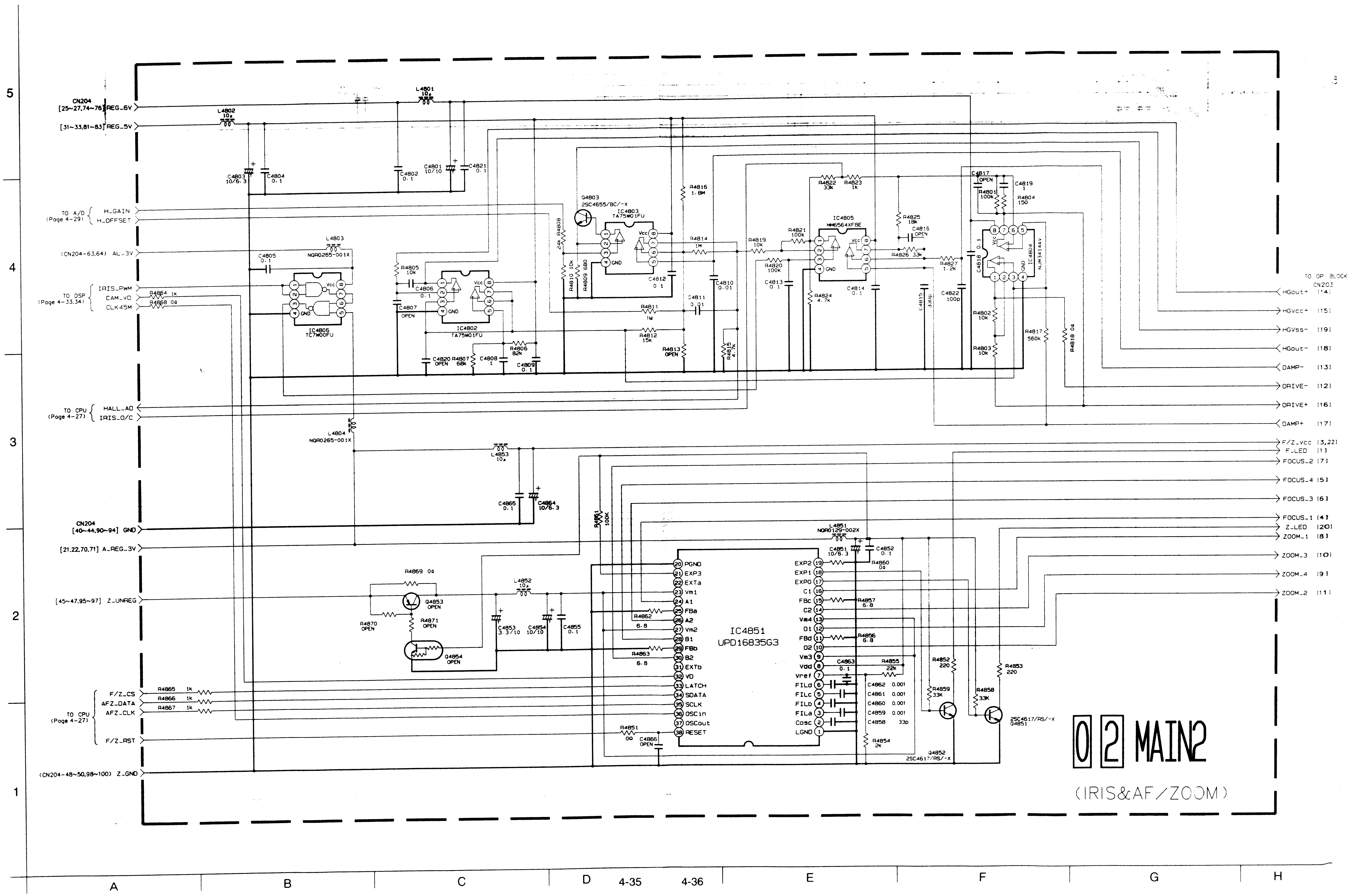
4.14 VDR SCHEMATIC DIAGRAM


CN204
[40~44,90~94] GND
[86,87] CAM_-6.5V
[88,89] CAM_15.2V
C4101 OPEN
C4124 100/10
C4125 100/10
C4102 10/16
C4103 0.1
L4101 10μ
C4104 OPEN
L4102 47μ
C4105 10/35
C4106 0.01
R4115 OPEN
C4107 0.1
C4121 0.1
R4113 0Ω
R4112 0Ω
R4111 0Ω
C4122 0.1
C4123 0.1
CN202
TO CCD CN801 (Page 4-67)
[6] V1
[10] V3
[23] VOG
[9] HOB
[7] HHG2
[5] HHG1
TO CPU,A/D, CDS/TG (Page 4-27,29,37)
XHHG1A
XHHG1B
XHHG2B
XHHG2A
XHOB
STBY_TG
XVOG
XV3
XV1
R4114 0Ω
IC4101
JCY0085
22 VM
21 VH
20 HHG01
19 HHG02
18 HOB0
17 VH
16 VM
15 VL
14 VOG0
13 VO3
12 VO1
23 VL
24 XHHG1-1
25 XHHG1-2
26 XHHG2-2
27 XHHG2-1
28 XHOB
29 STBY
30 XVOG
31 XV3
32 XV1
33 VDD
34 VM
35 XVHOLD
36 XSUB
37 TI2
38 POG
39 HIG1
40 TI1
41 XV2
42 XSG
43 VSUB
44 SUBDC
11 VHOLD0
10 VL
9 VM
8 VHH
7 SUB
6 POG0
5 HIG0
4 VO2
3 VL
2 VM
1 VHH
C4112 0.1
C4113 0.01
C4114 0.1
C4115 0.01
TP4101
D4101 1SS355
R4103 100k
R4104 1M
D4102 1SS355
C4116 0.1
C4117 1/35
C4118 0.1
R4105 OPEN
R4106 1k
R4107 OPEN
R4109 OPEN
R4108 OPEN
R4110 1k
L4104 10μ
C4119 0.1
C4120 10/6.3
C4111 0.1
C4108 0.1
R4116 OPEN
R4101 0Ω
R4102 0Ω
L4103 10μ
C4109 0.1
C4110 10/6.3
CN202
CCD_-6.5V [28,29]
CCD_15.2V [12~14]
VHOLD [4]
POG [22]
HIG1 [24]
V2 [8]
VSUB [25]
HIS [27]
TO CCD CN801 (Page 4-67)
HISCONT
SUBCONT
CAM_5V
XSG
XV2
XHIG1
XPOG
XSUB
XVHOLD
TO A/D,CDS/TG (Page 4-29,37)
D_REG_3V (CN204-23,24,72,73)
02 MAIN 2 (VDR)

4.13 A/D SCHEMATIC DIAGRAM

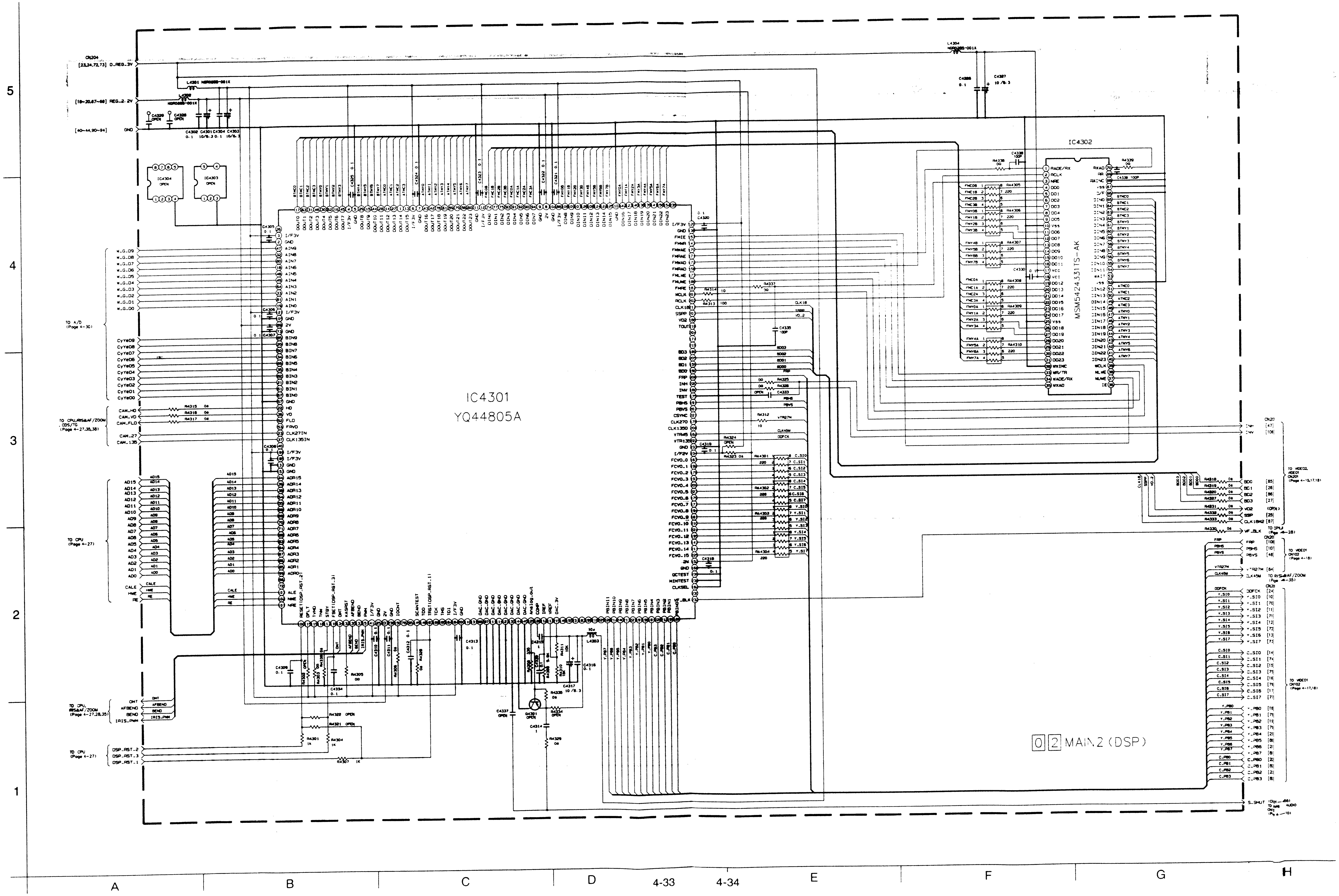

A/D_IN2
A/D_IN1
VRT1
VRB1
VRT2
VRB2
TO VDR, CDS/TG
(Page 4-31,32,38)
ADCLK
STBY_TG
3.1V
CAM_5V
SUBCONT
HISCONT
AGCCONT1
OFFSET1
AGCCONT2
OFFSET2
IC4203
TK11331BMC
C4221 47/6.3
C4222 0.1
C4225 47/6.3
C4223 10/6.3
C4224 0.1
IC4201
AD9200JST
IC4202
AD9200JST
TP4201
R4203 0Ω
CyYe00
CyYe01
CyYe02
CyYe03
CyYe04
CyYe05
CyYe06
CyYe07
CyYe08
CyYe09
TO DSP
(Page 4-33)
W_G_00
W_G_01
W_G_02
W_G_03
W_G_04
W_G_05
W_G_06
W_G_07
W_G_08
W_G_09
TO DSP
(Page 4-33)
TO CPU
(Page 4-28)
STBY_TG
CN204
[21,22,70,71] A_REG_3V
[34,35,84,85] CAM_5V
[40~44,90~94] GND
L1201 10u
SENS_EVR
R1204 0Ω
TO CPU,IRIS&AF/ZOOM,
STROBE SUB
(Page 4-27,28,35,39)
CAM_DAC_CS
S_CLK
S_DT_OUT
R1201 0Ω
R1202 0Ω
R1203 0Ω
H_GAIN
H_OFFSET
IC1201
MB88346BPFV
C1201 C1202
10/6.3 0.1
02 MAIN2 (A/D)
A
B
C
D
E
F
G
H

4.16 IRIS & AF/ZOOM SCHEMATIC DIAGRAM

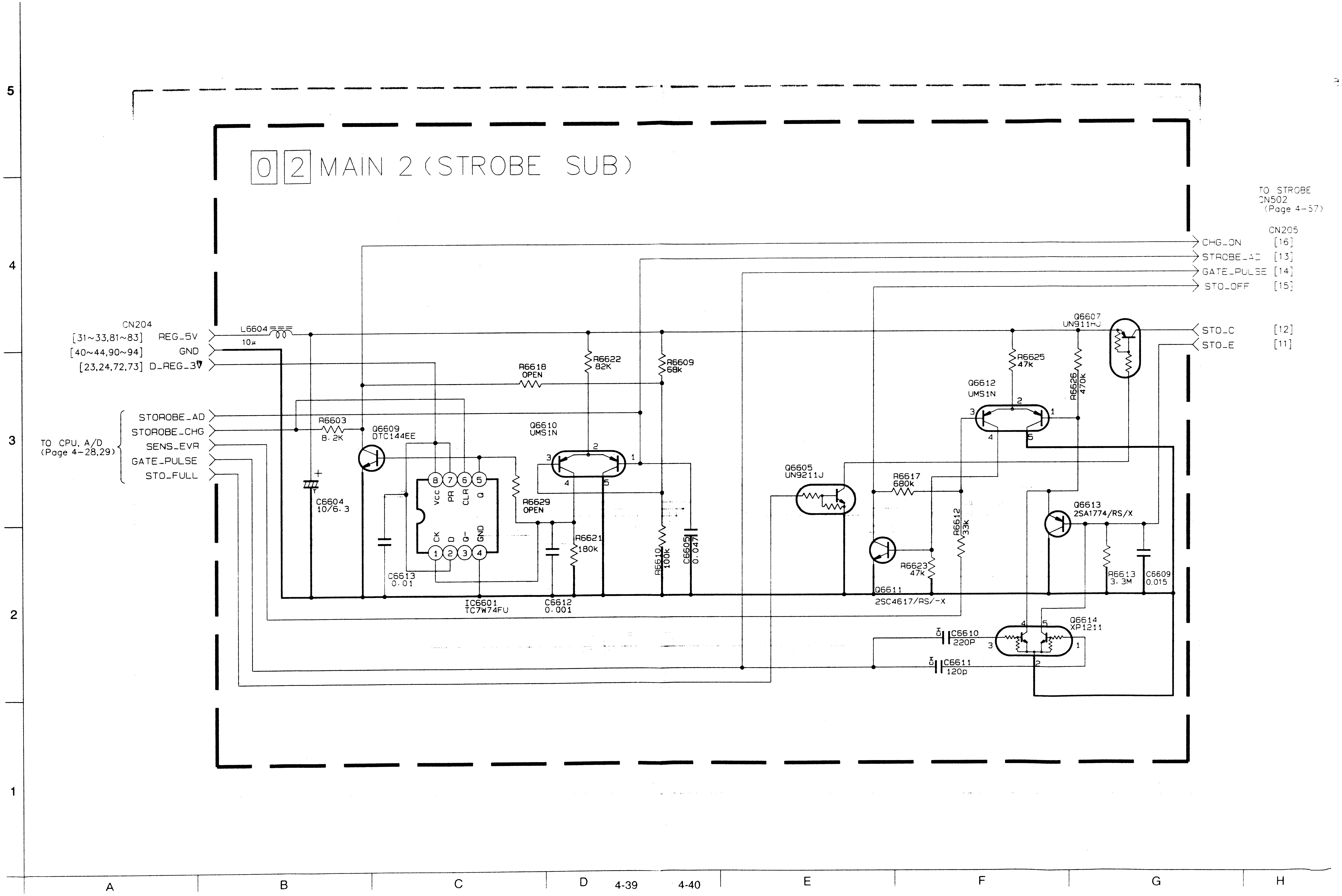


CN204 [25~27,74~76] REG_6V
[31~33,81~83] REG_5V
L4801 10μ
L4802 10μ
C4803 10/6.3
C4804 0.1
C4802 0.1
C4801 10/10
C4821 0.1
TO A/D (Page 4-29) H_GAIN
H_OFFSET
(CN204-63,64) AL_3V
TO DSP (Page 4-33,34) IRIS_PWM
CAM_VD
CLK45M
R4864 1k
R4868 0Ω
L4803 NQR0265-001X
C4805 0.1
IC4806 TC7W00FU
R4805 10k
C4806 0.1
C4807 OPEN
IC4802 TA75W01FU
C4820 OPEN
R4807 68k
C4808 1
R4806 82k
C4809 0.1
Q4803 2SC4655/BC/-X
IC4803 TA75W01FU
R4808 24k
R4810 10k
R4809 680
R4816 1.8M
R4814 1M
C4812 0.1
R4811 1M
R4812 15K
R4813 OPEN
C4810 0.01
C4811 0.01
R4815 4.7k
R4819 10k
R4820 100k
R4821 100k
C4813 0.1
R4824 4.7k
IC4805 MM6564XFBE
C4814 0.1
R4822 33k
R4823 1k
R4825 18k
C4815 OPEN
R4826 33k
R4827 1.2k
C4816 330p
C4822 100p
C4818 0.1
C4817 OPEN
C4819 1
R4801 100k
R4804 150
IC4804 NJM3414AV
R4802 10k
R4803 10k
R4817 560k
R4818 0Ω
TO CPU (Page 4-27) HALL_AD
IRIS_O/C
L4804 NQR0265-001X
L4853 10μ
C4865 0.1
C4864 10/6.3
CN204 [40~44,90~94] GND
[21,22,70,71] A_REG_3V
[45~47,95~97] Z_UNREG
R4869 0Ω
Q4853 OPEN
R4870 OPEN
R4871 OPEN
Q4854 OPEN
L4852 10μ
C4853 3.3/10
C4854 10/10
C4855 0.1
TO CPU (Page 4-27) F/Z_CS
AFZ_DATA
AFZ_CLK
F/Z_RST
R4865 1k
R4866 1k
R4867 1k
R4851 0Ω
C4866 OPEN
(CN204-48~50,98~100) Z_GND
R4861 100K
R4862 6.8
R4863 6.8
L4851 NQR0129-002X
C4851 10/6.3
C4852 0.1
R4860 0Ω
IC4851 UPD16835G3
20 PGND
21 EXP3
22 EXTa
23 Vm1
24 A1
25 FBa
26 A2
27 Vm2
28 B1
29 FBb
30 B2
31 EXTb
32 VD
33 LATCH
34 SDATA
35 SCLK
36 OSCin
37 OSCout
38 RESET
EXP2 19
EXP1 18
EXP0 17
C1 16
FBc 15
C2 14
Vm4 13
D1 12
FBd 11
D2 10
Vm3 9
Vdd 8
Vref 7
FILd 6
FILc 5
FILb 4
FILa 3
Cosc 2
LGND 1
R4857 6.8
R4856 6.8
C4863 0.1
R4855 22k
C4862 0.001
C4861 0.001
C4860 0.001
C4859 0.001
C4858 33p
R4854 2k
R4852 220
R4859 33K
R4853 220
R4858 33K
Q4852 2SC4617/RS/-X
2SC4617/RS/-X Q4851
TO OP BLOCK CN203
HGout+ [14]
HGvcc+ [15]
HGVss- [19]
HGout- [18]
DAMP- [13]
DRIVE- [12]
DRIVE+ [16]
DAMP+ [17]
F/Z_Vcc [3,22]
F_LED [1]
FOCUS_2 [7]
FOCUS_4 [5]
FOCUS_3 [6]
FOCUS_1 [4]
Z_LED [20]
ZOOM_1 [8]
ZOOM_3 [10]
ZOOM_4 [9]
ZOOM_2 [11]
02 MAIN2
(IRIS&AF/ZOOM)
1
2
3
4
5
A
B
C
D
E
F
G
H

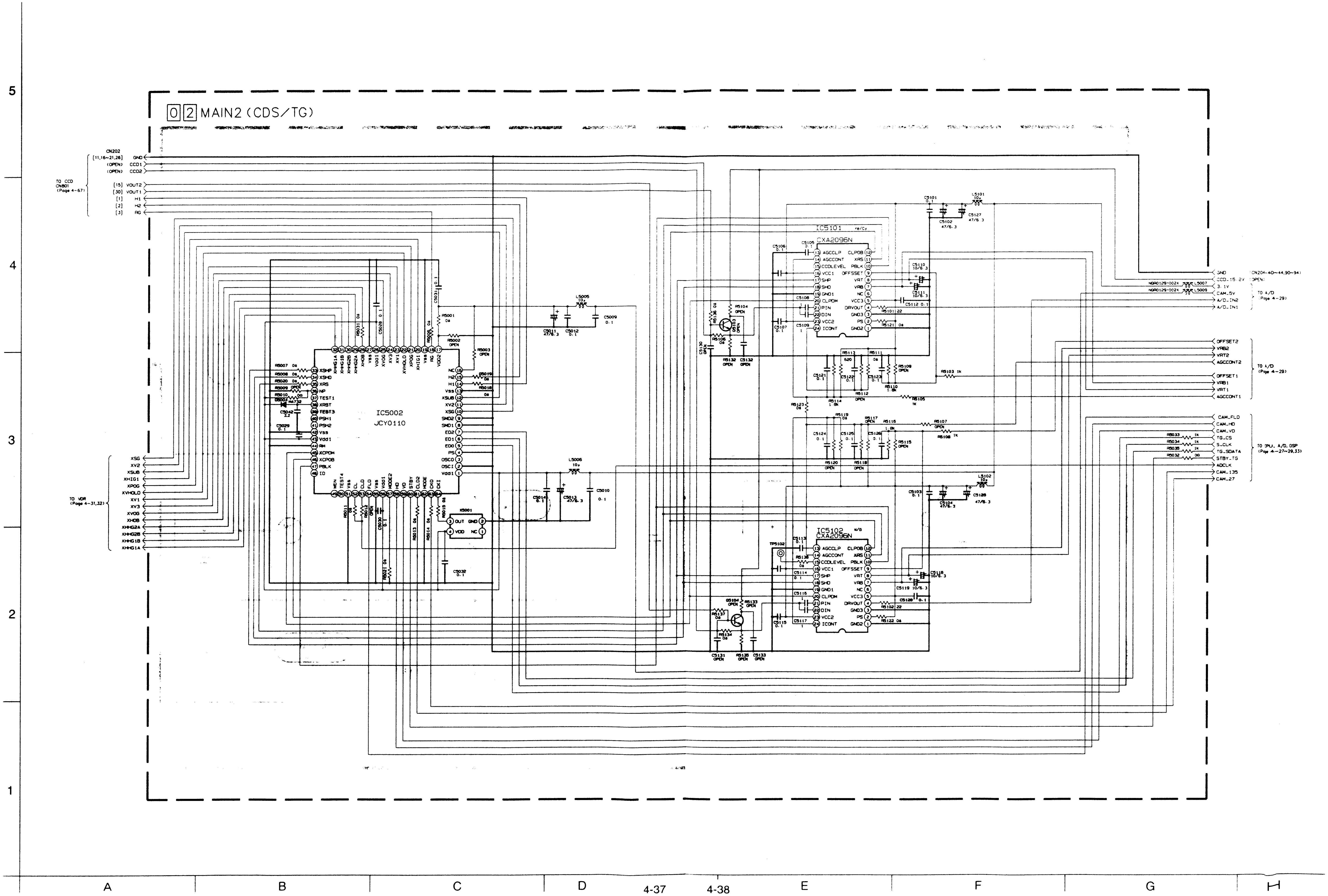
4.15 DSP SCHEMATIC DIAGRAM


IC4301
YQ44805A
IC4302
MSM5424331TS-AK
IC4304 OPEN
IC4303 OPEN
CN204
D_REG_3V
REG_2.2V
GND
TO A/D (Page 4-30)
TO CPU, IRIS&AF/ZOOM, CDS/TG (Page 4-27,35,38)
TO CPU (Page 4-27)
TO CPU, IRIS&AF/ZOOM (Page 4-27,28,35)
TO CPU (Page 4-27)
TO VIDEO2, VIDEO1 CN201 (Page 4-15,17,18)
TO VIDEO1 CN102 (Page 4-18)
TO IRIS&AF/ZOOM (Page 4-35)
TO VIDEO1 CN102 (Page 4-17,18)
02 MAIN2 (DSP)
S_SHUT
A
B
C
D
E
F
G
H
1
2
3
4
5

4.18 STROBE SUB SCHEMATIC DIAGRAM


0 2 MAIN 2 (STROBE SUB)
CN204
[31~33,81~83] REG_5V
[40~44,90~94] GND
[23,24,72,73] D_REG_3V
TO CPU. A/D
(Page 4-28,29)
STOROBE_AD
STOROBE_CHG
SENS_EVR
GATE_PULSE
STO_FULL
L6604
10μ
C6604
10/6.3
R6603
8.2K
Q6609
DTC144EE
R6618
OPEN
R6622
82K
R6609
68k
Q6610
UMS1N
IC6601
TC7W74FU
Vcc PR CLR Q
CK D Q- GND
R6629
OPEN
R6621
180k
C6613
0.01
C6612
0.001
R6610
100k
C6605
0.047
Q6605
UN9211J
Q6611
2SC4617/RS/-X
R6617
680k
R6623
47k
R6612
33k
Q6612
UMS1N
R6625
47k
R6626
470k
Q6607
UN911HJ
Q6613
2SA1774/RS/X
R6613
3.3M
C6609
0.015
C6610
220P
C6611
120p
Q6614
XP1211
TO STROBE
CN502
(Page 4-57)
CN205
CHG_ON [16]
STROBE_AD [13]
GATE_PULSE [14]
STO_OFF [15]
STO_C [12]
STO_E [11]
A
B
C
D
E
F
G
H
1
2
3
4
5

4.17 CDS/TG SCHEMATIC DIAGRAM


02 MAIN2 (CDS/TG)
CN202
[11,16~21,26] GND
(OPEN) CCD1
(OPEN) CCD2
[15] VOUT2
[30] VOUT1
[1] H1
[2] H2
[3] RG
TO CCD CN801 (Page 4-67)
XSG
XV2
XSUB
XHIG1
XPOG
XVHOLD
XV1
XV3
XVOG
XHOB
XHHG2A
XHHG2B
XHHG1B
XHHG1A
TO VDR (Page 4-31,32)
IC5002
JCY0110
X5001
IC5101
CXA2096N
IC5102
CXA2096N
GND (CN204-40~44,90~94)
CCD_15.2V (OPEN)
3.1V
CAM_5V
A/D_IN2
A/D_IN1
TO A/D (Page 4-29)
OFFSET2
VRB2
VRT2
AGCCONT2
OFFSET1
VRB1
VRT1
AGCCONT1
TO A/D (Page 4-29)
CAM_FLD
CAM_HD
CAM_VD
TG_CS
S_CLK
TG_SDATA
STBY_TG
ADCLK
CAM_135
CAM_27
TO CPU, A/D, DSP (Page 4-27~29,33)
5
4
3
2
1
A
B
C
D
E
F
G
H

COMPONENT PARTS LOCATION GUIDE (MAIN2)

REF.No.	LOCATION		
CAPACITOR			
C1001	A	C	1C
C1002	A	C	1C
C1003	B	C	2A
C1004	B	C	2A
C1005	B	C	2A
C1006	B	C	2A
C1007	B	C	2A
C1008	A	C	2C
C1009	B	C	2B
C1010	B	C	2C
C1011	B	C	2D
C1012	B	C	2B
C1013	A	C	3C
C1014	A	C	3C
C1015	A	C	3C
C1016	A	C	2D
C1017	A	C	1D
C1018	A	C	2C
C1019	A	C	2C
C1020	A	C	2C
C1021	A	C	1C
C1022	B	C	1D
C1023	A	C	1C
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C1026	A	C	2D
C1030	A	C	2C
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C1033	B	C	1C
C1034	A	C	1C
C1101	A	C	2D
C1102	A	C	2D
C1103	A	C	2D
C1104	A	C	1D
C1105	A	C	2C
C1106	A	C	2C
C1107	A	C	2D
C1108	A	C	2D
C1111	A	C	2D
C1112	A	C	1D
C1201	B	C	2B
C1202	B	C	2B
C4101	A	C	1A
C4102	A	C	1A
C4103	A	C	1A
C4104	A	C	1A
C4105	A	C	1A
C4106	A	C	1A
C4107	A	C	1A
C4108	A	C	2A
C4109	A	C	2B
C4110	A	C	2B
C4111	A	C	2A
C4112	A	C	1A
C4113	A	C	2A
C4114	A	C	2A
C4115	A	C	2A
C4116	B	C	2A
C4117	A	C	2A
C4118	B	C	2A
C4119	A	C	1A
C4120	A	C	1A
C4121	A	C	1A
C4122	A	C	1A
C4123	A	C	1A
C4124	B	C	1A
C4125	B	C	1A
C4201	A	C	3B
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C5013	A	C	2B
C5014	A	C	2B
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C5128	B	C	1B
C5130	A	C	1B
C5131	B	C	1B
C5132	A	C	2B
C5133	B	C	2B
C6604	B	C	2D
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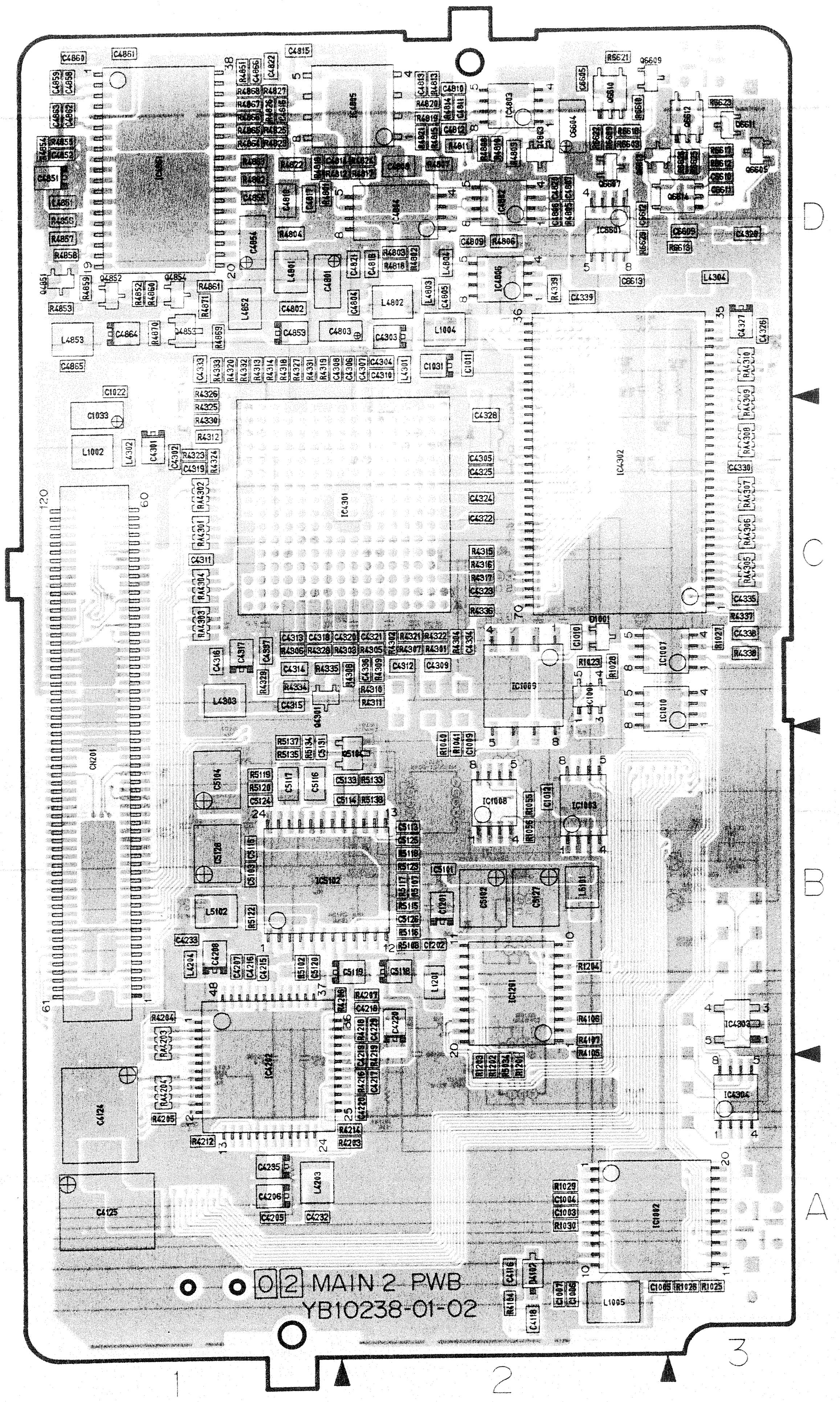
C6609	B	C	3D
C6610	B	C	3D
C6611	B	C	3D
C6612	B	C	2D
C6613	B	C	2D
CONNECTOR			
CN201	B	C	1B
CN202	A	C	1B
CN203	A	C	1D
CN204	A	C	1B
CN205	A	C	2D
CN206	A	C	3C
CN207	A	C	1D
CN208	A	C	3A
CN209	A	C	1B
CN210	A	C	1D
DIODE			
D1001	B	C	2C
D1002	A	C	1D
D1003	A	C	2D
D1004	A	C	3C
D4101	A	C	2A
D4102	B	C	2A
D5004	A	C	1B
IC			
IC1001	A	C	2C
IC1002	B	C	2A
IC1003	B	C	2B
IC1004	A	C	2C
IC1005	B	C	2C
IC1006	A	C	2C
IC1007	B	C	3C
IC1008	B	C	2B
IC1009	B	C	2C
IC1010	B	C	3C
IC1101	A	C	2D
IC1201	B	C	2B
IC4101	A	C	2A
IC4201	A	C	3B
IC4202	B	C	1A
IC4203	A	C	3B
IC4301	B	C	2C
IC4302	B	C	2C
IC4303	B	C	3B
IC4304	B	C	3A
IC4802	B	C	2D
IC4803	B	C	2D
IC4804	B	C	2D
IC4805	B	C	2D
IC4806	B	C	2D
IC4851	B	C	1D
IC5002	A	C	2B
IC5101	A	C	2B
IC5102	B	C	1B
IC6601	B	C	2D
COIL			
L1001	A	C	1C
L1002	B	C	1C
L1003	A	C	1C
L1004	B	C	2D
L1005	B	C	2A
L1201	B	C	2B
L4101	A	C	1A
L4102	A	C	1A
L4103	A	C	3B
L4104	A	C	1A
L4201	A	C	3B
L4202	A	C	2C
L4203	B	C	1A
L4204	B	C	1B
L4301	B	C	2D
L4302	B	C	1C
L4303	B	C	1C
L4304	B	C	3D
L4801	B	C	1D
L4802	B	C	2D
L4803	B	C	2D
L4804	B	C	2D
L4851	B	C	1D
L4852	B	C	1D
L4853	B	C	1D
L5005	A	C	1A
L5006	A	C	2B
L5007	A	C	3B
L5009	A	C	1A
L5101	B	C	2B
L5102	B	C	1B
L6604	A	C	2D
TRANSISTOR			
Q1001	A	C	2C
Q1002	A	C	2C
Q4301	B	C	1C
Q4803	B	C	2D
Q4851	B	C	1D
Q4852	B	C	1D
Q4853	B	C	1D
Q4854	B	C	1D
Q5103	A	C	2B
Q5104	B	C	2B
Q6605	B	C	3D
Q6607	B	C	2D
Q6609	B	C	2D
Q6610	B	C	2D
Q6611	B	C	3D
Q6612	B	C	3D
Q6613	B	C	2D
Q6614	B	C	3D
RESISTOR			
R1001	A	C	1D
R1002	A	C	1D
R1003	A	C	2D

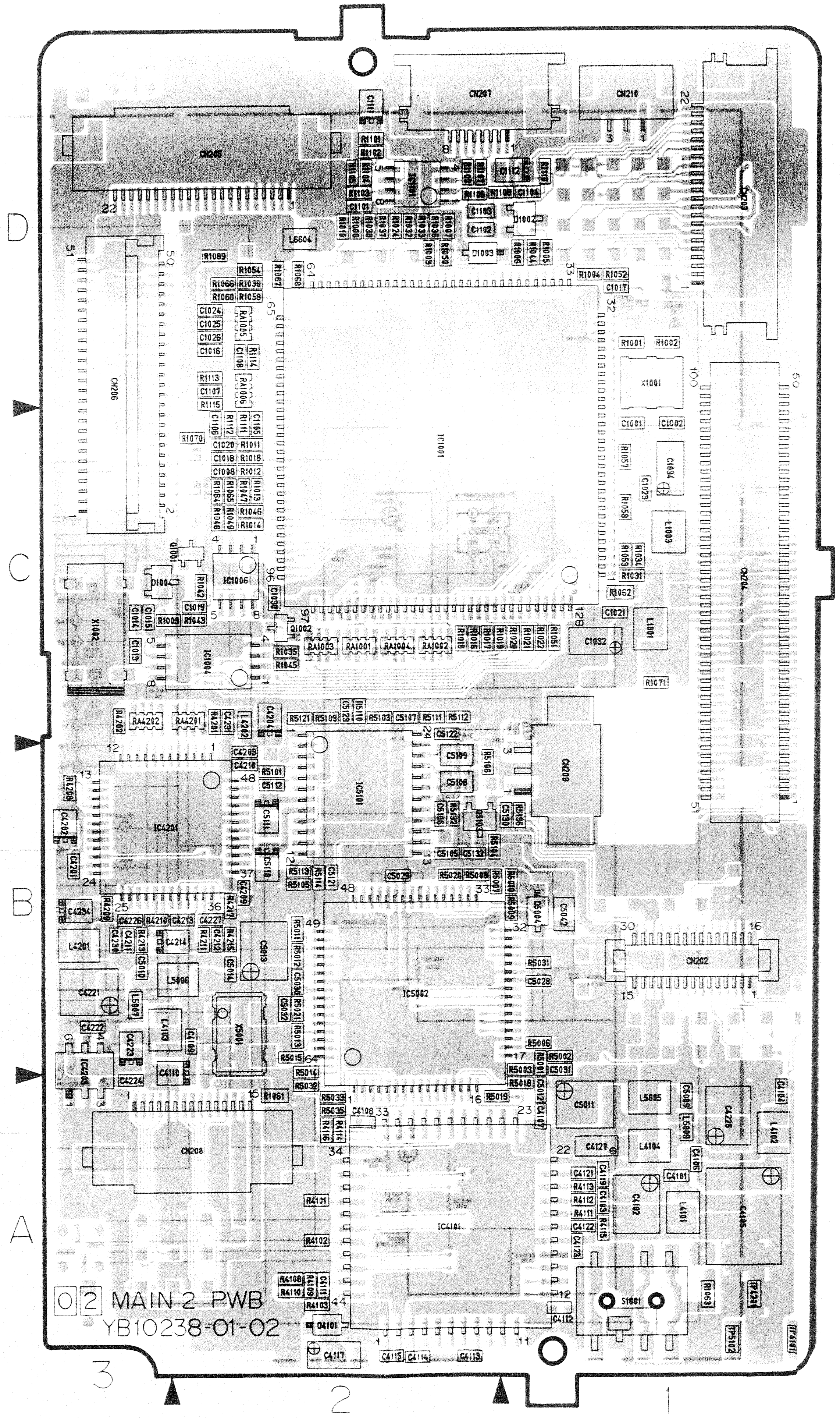
REF.No.	LOCATION			REF.No.	LOCATION			REF.No.	LOCATION			REF.No.	LOCATION			REF.No.	LOCATION		
R1004	A	C	1D	R1101	A	C	2D	R4315	B	C	2C	R4867	B	C	1D	R6626	B	C	3D
R1005	A	C	1D	R1102	A	C	2D	R4316	B	C	2C	R4868	B	C	1D	R6629	B	C	2D
R1006	A	C	1D	R1103	A	C	2D	R4317	B	C	2C	R4869	B	C	1D	RA1001	A	C	2C
R1007	A	C	2D	R1104	A	C	2D	R4318	B	C	1D	R4870	B	C	1D	RA1002	A	C	2C
R1008	A	C	2D	R1105	A	C	2D	R4319	B	C	1D	R4871	B	C	1D	RA1003	A	C	2C
R1009	A	C	3C	R1106	A	C	2D	R4320	B	C	1D	R5001	A	C	1B	RA1004	A	C	2C
R1010	A	C	2D	R1107	A	C	2D	R4321	B	C	2C	R5002	A	C	1B	RA1005	A	C	2D
R1011	A	C	2C	R1108	A	C	1D	R4322	B	C	2C	R5003	A	C	1B	RA1006	A	C	2D
R1012	A	C	2C	R1109	A	C	2D	R4323	B	C	1C	R5006	A	C	1B	RA4201	A	C	2C
R1013	A	C	2C	R1110	A	C	1D	R4324	B	C	1C	R5007	A	C	2B	RA4202	A	C	3C
R1014	A	C	2C	R1111	A	C	2C	R4325	B	C	1C	R5008	A	C	2B	RA4203	B	C	1B
R1015	A	C	2C	R1112	A	C	2C	R4326	B	C	1D	R5009	A	C	1B	RA4204	B	C	1A
R1016	A	C	2C	R1113	A	C	2D	R4327	B	C	1D	R5010	A	C	1B	RA4301	B	C	1C
R1017	A	C	2C	R1114	A	C	2D	R4328	B	C	1C	R5011	A	C	2B	RA4302	B	C	1C
R1018	A	C	2C	R1115	A	C	2D	R4329	B	C	1C	R5012	A	C	2B	RA4303	B	C	1C
R1019	A	C	2C	R1201	B	C	2A	R4330	B	C	1C	R5013	A	C	2B	RA4304	B	C	1C
R1020	A	C	1C	R1202	B	C	2A	R4331	B	C	1D	R5014	A	C	2B	RA4305	B	C	3C
R1021	A	C	1C	R1203	B	C	2A	R4332	B	C	1D	R5015	A	C	2B	RA4306	B	C	3C
R1022	A	C	1C	R1204	B	C	2B	R4333	B	C	1D	R5018	A	C	1A	RA4307	B	C	3C
R1023	B	C	2C	R4101	A	C	2A	R4334	B	C	1C	R5019	A	C	2A	RA4308	B	C	3C
R1024	A	C	2D	R4102	A	C	2A	R4335	B	C	1C	R5020	A	C	2B	RA4309	B	C	3C
R1025	B	C	3A	R4103	A	C	2A	R4336	B	C	2C	R5021	A	C	2B	RA4310	B	C	3D
R1026	B	C	3A	R4104	B	C	2A	R4337	B	C	3C	R5031	A	C	1B	**TEST POINT**			
R1027	B	C	3C	R4105	B	C	2B	R4338	B	C	3C	R5032	A	C	2A	TP4101	A	C	1A
R1028	B	C	2C	R4106	B	C	2B	R4339	B	C	2D	R5033	A	C	2A	TP4201	A	C	1A
R1029	B	C	2A	R4107	B	C	2B	R4801	B	C	1D	R5034	B	C	2A	TP5102	A	C	1A
R1030	B	C	2A	R4108	A	C	2A	R4802	B	C	2D	R5035	A	C	2A	**OTHER**			
R1031	A	C	1C	R4109	A	C	2A	R4803	B	C	2D	R5101	A	C	2B	S1001	A	C	1A
R1032	A	C	2D	R4110	A	C	2A	R4804	B	C	1D	R5102	B	C	1B	X1001	A	C	1D
R1033	A	C	2D	R4111	A	C	1A	R4805	B	C	2D	R5103	A	C	2C	X1002	A	C	3C
R1034	A	C	1C	R4112	A	C	1A	R4806	B	C	2D	R5104	A	C	2B	X5001	A	C	2B
R1035	A	C	2C	R4113	A	C	1A	R4807	B	C	2D	R5105	A	C	2B				
R1036	A	C	2D	R4114	A	C	2A	R4808	B	C	2D	R5106	A	C	2B				
R1037	A	C	2D	R4115	A	C	1A	R4809	B	C	2D	R5107	B	C	2B				
R1038	A	C	2D	R4116	A	C	2A	R4810	B	C	2D	R5108	B	C	2B				
R1039	A	C	2D	R4201	A	C	2C	R4811	B	C	2D	R5109	A	C	2C				
R1040	B	C	2B	R4202	A	C	3C	R4812	B	C	2D	R5110	A	C	2C				
R1041	B	C	2B	R4203	B	C	2A	R4813	B	C	2D	R5111	A	C	2C				
R1042	A	C	2C	R4204	B	C	1B	R4814	B	C	2D	R5112	A	C	2C				
R1043	A	C	2C	R4205	B	C	1A	R4815	B	C	2D	R5113	A	C	2B				
R1044	A	C	1D	R4206	B	C	2B	R4816	B	C	1D	R5114	A	C	2B				
R1045	A	C	2C	R4207	B	C	2B	R4817	B	C	2D	R5115	B	C	2B				
R1046	A	C	2C	R4208	A	C	3B	R4818	B	C	2D	R5116	B	C	2B				
R1047	A	C	2C	R4209	A	C	3B	R4819	B	C	2D	R5117	B	C	2B				
R1048	A	C	2C	R4210	A	C	3B	R4820	B	C	2D	R5118	B	C	2B				
R1049	A	C	2C	R4211	A	C	2B	R4821	B	C	2D	R5119	B	C	1B				
R1050	A	C	2D	R4212	B	C	1A	R4822	B	C	1D	R5120	B	C	1B				
R1051	A	C	1C	R4213	A	C	3B	R4823	B	C	1D	R5121	A	C	2C				
R1052	A	C	1D	R4214	B	C	2A	R4824	B	C	2D	R5122	B	C	1B				
R1053	A	C	1C	R4215	A	C	2B	R4825	B	C	1D	R5123	B	C	2B				
R1054	A	C	2D	R4216	B	C	2A	R4826	B	C	1D	R5132	A	C	2B				
R1055	B	C	2B	R4217	A	C	2B	R4827	B	C	1D	R5133	B	C	2B				
R1056	B	C	2B	R4218	B	C	2B	R4851	B	C	1D	R5134	B	C	1B				
R1057	A	C	1C	R4219	B	C	2B	R4852	B	C	1D	R5135	B	C	1B				
R1058	A	C	1C	R4301	B	C	2C	R4853	B	C	1D	R5136	A	C	1B				
R1059	A	C	2D	R4302	B	C	2C	R4854	B	C	1D	R5137	B	C	1B				
R1060	A	C	2D	R4303	B	C	2C	R4855	B	C	1D	R5138	B	C	2B				
R1061	A	C	2A	R4304	B	C	2C	R4856	B	C	1D	R6603	B	C	2D				
R1062	A	C	1C	R4305	B	C	2C	R4857	B	C	1D	R6609	B	C	2D				
R1063	A	C	1A	R4306	B	C	1C	R4858	B	C	1D	R6610	B	C	2D				
R1064	A	C	2C	R4307	B	C	2C	R4859	B	C	1D	R6612	B	C	3D				
R1065	A	C	2C	R4308	B	C	2C	R4860	B	C	1D	R6613	B	C	3D				
R1066	A	C	2D	R4309	B	C	2C	R4861	B	C	1D	R6617	B	C	3D				
R1067	A	C	2D	R4310	B	C	2C	R4862	B	C	1D	R6618	B	C	2D				
R1068	A	C	2D	R4311	B	C	2C	R4863	B	C	1D	R6621	B	C	2D				
R1069	A	C	2D	R4312	B	C	1C	R4864	B	C	1D	R6622	B	C	2D				
R1070	A	C	2C	R4313	B	C	1D	R4865	B	C	1D	R6623	B	C	3D				
R1071	A	C	1C	R4314	B	C	1D	R4866	B	C	1D	R6625	B	C	3D				

4.19 MAIN2 CIRCUIT BOARD

FOIL SIDE (B)


D
C
B
A
1
2
3
IC4301
IC4302
IC5102
IC1201
IC4202
IC1002
CN201
02 MAIN 2 PWB
YB10238-01-02

COMPONENT SIDE (A)


D
C
B
A
3
2
1
CN205
CN207
CN210
CN206
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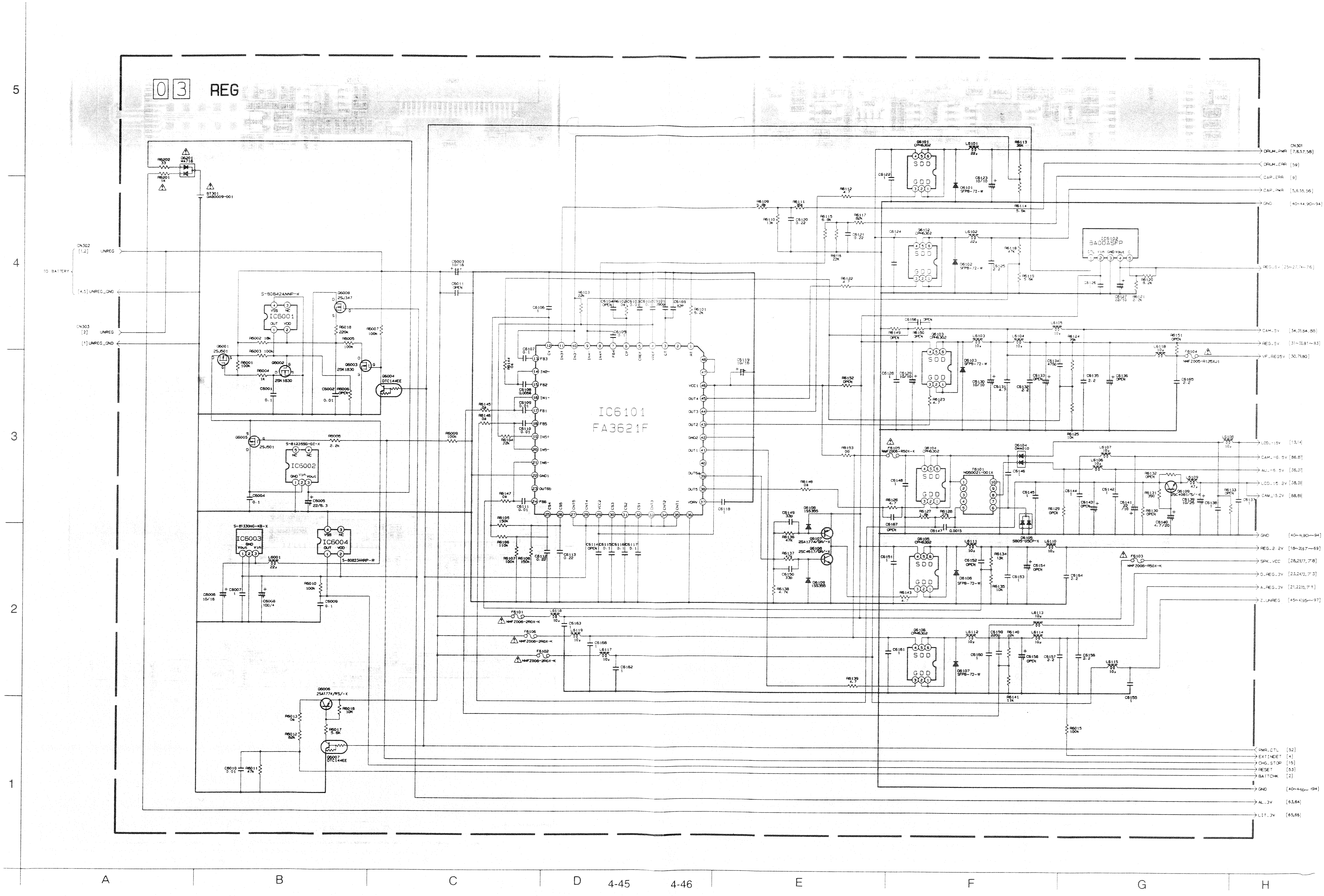
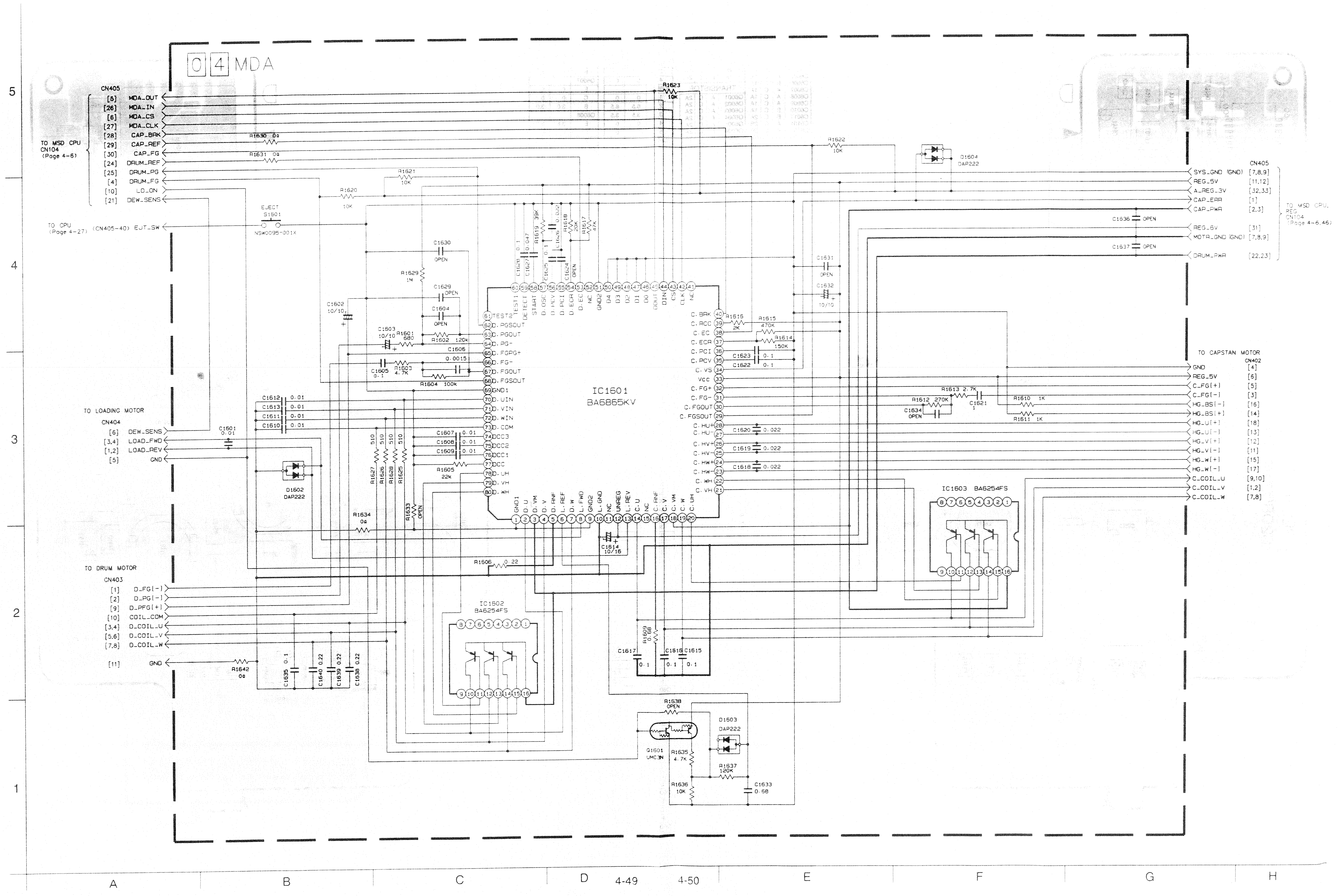
CN208
CN202
IC1001
IC1006
IC1004
IC5101
IC4201
IC5002
IC4101
X1001
02 MAIN 2 PWB
YB10238-01-02

REGULATOR SCHEMATIC DIAGRAM


03 REG
5
4
3
2
1
A
B
C
D
E
F
G
H
4-45
4-46
TO BATTERY
CN302
[1,2] UNREG
[4,5] UNREG_GND
CN303
[2] UNREG
[1] UNREG_GND
BT301
QAB0009-001
D6201
MA716
R6202 33
R6201 1k
S-80842ANNP-K
IC6001
Q6001 2SJ501
Q6002 2SK1830
Q6003 2SK1830
Q6004 DTC144EE
Q6008 2SJ347
Q6005 2SJ501
S-81235SG-QI-X
IC5002
S-81330HG-KB-X
IC6003
IC6004
S-80823ANNP-W
Q6006 2SA1774/R5/-X
Q6007 DTC144EE
IC6101
FA3621F
Q6101 CPH6302
Q6102 CPH6302
Q6103 CPH6302
Q6104 CPH6302
Q6105 CPH6302
Q6106 CPH6302
D6101 SFPB-72-W
D6102 SFPB-72-W
D6103 SFPB-72-W
D6106 SFPB-72-W
D6107 SFPB-72-W
D6104 DAN202U
D6105 SB05-05CP-X
Q6107 2SA1774/QR/-X
Q6108 2SC4617/QR/-X
D6108 1SS355
D6109 1SS355
Q6109 2SC4081/S/-X
T6101 NQS0021-001X
IC6102 BA00ASFP
F6101 NMFZ006-2R0X-K
F6102 NMFZ006-2R0X-K
F6103 NMFZ006-R50X-K
F6104 NMFZ005-R125XJ1
F6105 NMFZ006-R50X-K
F6106 NMFZ006-2R0X-K
CN301
DRUM_PWR [7,8,57,58]
DRUM_ERR [59]
CAP_ERR [9]
CAP_PWR [5,6,55,56]
GND [40~44,90~94]
REG_6V [25~27,74~76]
CAM_5V [34,35,84,85]
REG_5V [31~33,81~83]
VF_REG5V [30,79,80]
LCD_-15V [13,14]
CAM_-6.5V [86,87]
AU_-5.5V [36,37]
LCD_15.2V [38,39]
CAM_15.2V [88,89]
GND [40~44,90~94]
REG_2.2V [18~20,67~69]
SPK_VCC [28,29,77,78]
D_REG_3V [23,24,72,73]
A_REG_3V [21,22,70,71]
Z_UNREG [45~47,95~97]
PWR_CTL [52]
EXTINDET [4]
CHG_STOP [15]
RESET [53]
BATTCHK [2]
GND [40~44,90~94]
AL_3V [63,64]
LIT_3V [65,66]

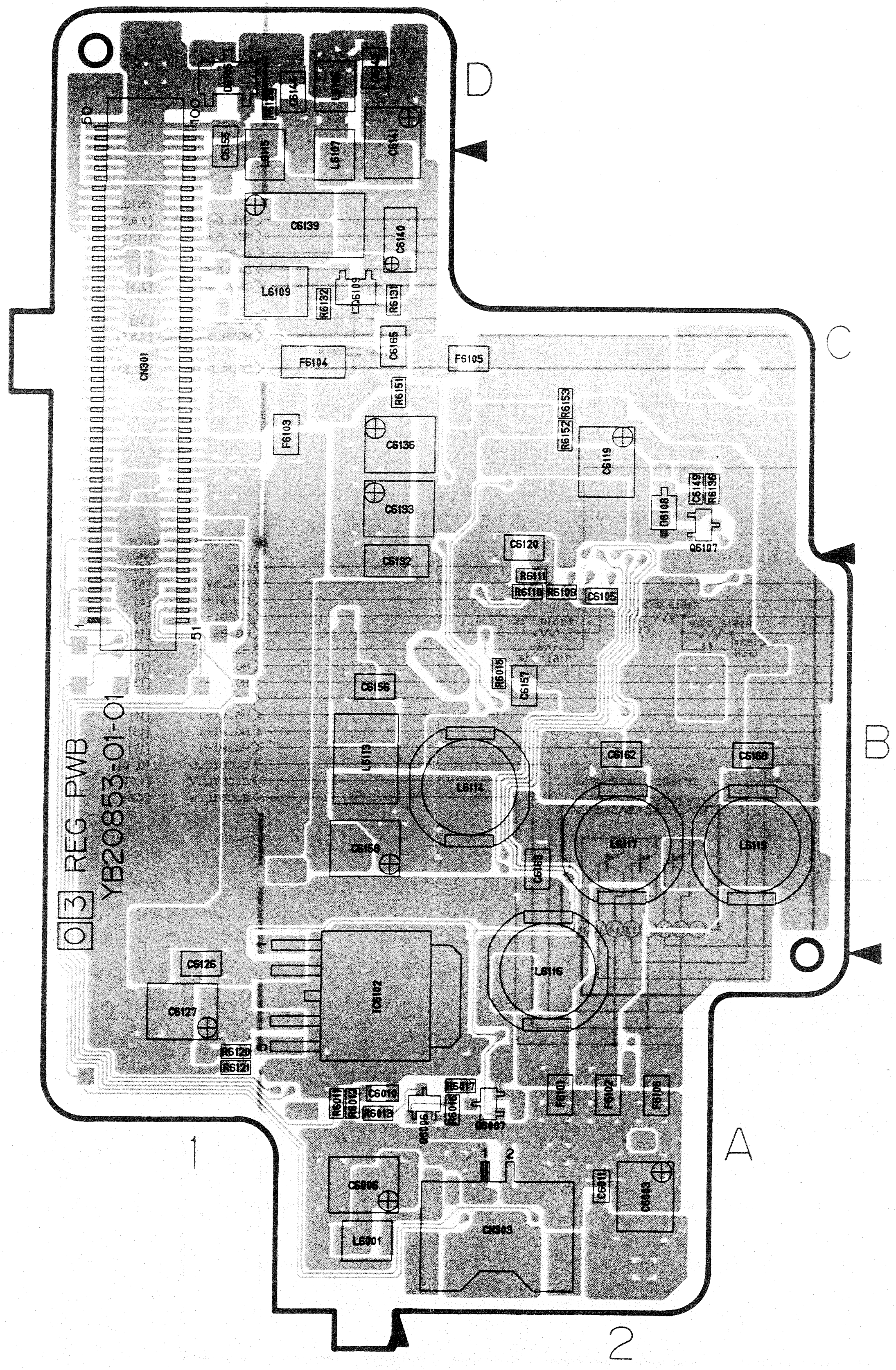
4.22 MDA SCHEMATIC DIAGRAM



04 MDA
CN405
[5] MDA_OUT
[26] MDA_IN
[6] MDA_CS
[27] MDA_CLK
[28] CAP_BRK
[29] CAP_REF
[30] CAP_FG
[24] DRUM_REF
[25] DRUM_PG
[4] DRUM_FG
[10] LO_ON
[21] DEW_SENS
TO MSD CPU CN104 (Page 4-6)
TO CPU (Page 4-27) (CN405-40) EJT_SW
EJECT S1501 NSW0095-001X
R1630 0Ω
R1631 0Ω
R1623 10K
R1622 10K
R1621 10K
R1620 10K
D1604 DAP222
CN405
SYS_GND (GND) [7,8,9]
REG_5V [11,12]
A_REG_3V [32,33]
CAP_ERR [1]
CAP_PWR [2,3]
REG_6V [31]
MOTR_GND (GND) [7,8,9]
DRUM_PWR [22,23]
TO MSD CPU, REG CN104 (Page 4-6,46)
C1636 OPEN
C1637 OPEN
C1630 OPEN
R1629 1M
C1629 OPEN
C1604 OPEN
C1602 10/10
C1603 10/10
R1601 680
R1602 120k
C1606 0.0015
C1605 0.1
R1603 4.7K
R1604 100k
C1626 0.1
C1627 0.047
R1619 39K
C1625 0.1
C1628 0.022
C1624 OPEN
R1618 20K
R1617 47K
C1631 OPEN
C1632 10/10
R1616 2K
R1615 470K
R1614 150K
C1623 0.1
C1622 0.1
IC1601 BA6865KV
61 TEST2
62 D.PGSOUT
63 D.PGOUT
64 D.PG-
65 D.FGPG+
66 D.FG-
67 D.FGOUT
68 D.FGSOUT
69 GND1
70 D.UIN
71 D.VIN
72 D.WIN
73 D.COM
74 DCC3
75 DCC2
76 DCC1
77 DCC
78 D.UH
79 D.VH
80 D.WH
60 TEST1
59 DETECT
58 START
57 D.OSC
56 D.PCV
55 D.PCI
54 D.ECR
53 D.EC
52 NC
51 GND2
50 D4
49 D3
48 D2
47 D1
46 D0
45 DOUT
44 DIN
43 CS
42 CLK
41 NC
40 C.BRK
39 C.RCC
38 C.EC
37 C.ECR
36 C.PCI
35 C.PCV
34 C.VS
33 VCC
32 C.FG+
31 C.FG-
30 C.FGOUT
29 C.FGSOUT
28 C.HU+
27 C.HU-
26 C.HV+
25 C.HV-
24 C.HW+
23 C.HW-
22 C.WH
21 C.VH
1 GND1
2 D.U
3 D.VM
4 D.V
5 D.RNF
6 D.W
7 L.REF
8 L.FWD
9 GND2
10 L.GND
11 NC
12 UNREG
13 L.REV
14 C.U
15 NC
16 C.RNF
17 C.V
18 C.VM
19 C.W
20 C.UH
C1620 0.022
C1619 0.022
C1618 0.022
TO CAPSTAN MOTOR
CN402
GND [4]
REG_5V [6]
C_FG(+) [5]
C_FG(-) [3]
HG_BS(-) [16]
HG_BS(+) [14]
HG_U(+) [18]
HG_U(-) [13]
HG_V(+) [12]
HG_V(-) [11]
HG_W(+) [15]
HG_W(-) [17]
C_COIL_U [9,10]
C_COIL_V [1,2]
C_COIL_W [7,8]
R1613 2.7K
R1612 270K
C1634 OPEN
C1621 1
R1610 1K
R1611 1K
IC1603 BA6254FS
TO LOADING MOTOR
CN404
[6] DEW_SENS
[3,4] LOAD_FWD
[1,2] LOAD_REV
[5] GND
C1601 0.01
C1612 0.01
C1613 0.01
C1611 0.01
C1610 0.01
D1602 DAP222
R1627 510
R1626 510
R1628 510
R1625 510
C1607 0.01
C1608 0.01
C1609 0.01
R1605 22k
R1633 OPEN
R1634 0Ω
C1614 10/16
R1606 0.22
TO DRUM MOTOR
CN403
[1] D_FG(-)
[2] D_PG(-)
[9] D_PFG(+)
[10] COIL_COM
[3,4] D_COIL_U
[5,6] D_COIL_V
[7,8] D_COIL_W
[11] GND
R1642 0Ω
C1635 0.1
C1640 0.22
C1639 0.22
C1638 0.22
IC1502 BA6254FS
R1609 0.68
C1617 0.1
C1616 0.1
C1615 0.1
R1638 OPEN
Q1601 UMC3N
D1603 DAP222
R1635 4.7K
R1637 120K
R1636 10K
C1633 0.68
5
4
3
2
1
A
B
C
D
E
F
G
H

4.21 REGULATOR CIRCUIT BOARD

FOIL SIDE (B)


D
C
B
A
1
2
03 REG PWB
YB20853-01-01
CN301
C6158
C6155
C6107
C6141
C6139
C6140
L6109
R6132
R6131
C6165
F6104
F6105
F6103
R6151
C6136
C6133
R6152
R6153
C6119
C6149
R6136
D6108
Q6107
C6120
C6132
R6111
R6110
R6109
C6105
R6015
C6157
C6156
L6113
L6114
C6162
C6160
C6168
C6163
L6117
L6119
L6116
C6126
C6127
IC6102
R6120
R6121
R6011
R6012
R6013
R6017
R6016
Q6007
C6006
C6003
CN303
L6001
C6011
C6010

COMPONENT PARTS LOCATION GUIDE (REGULATOR)

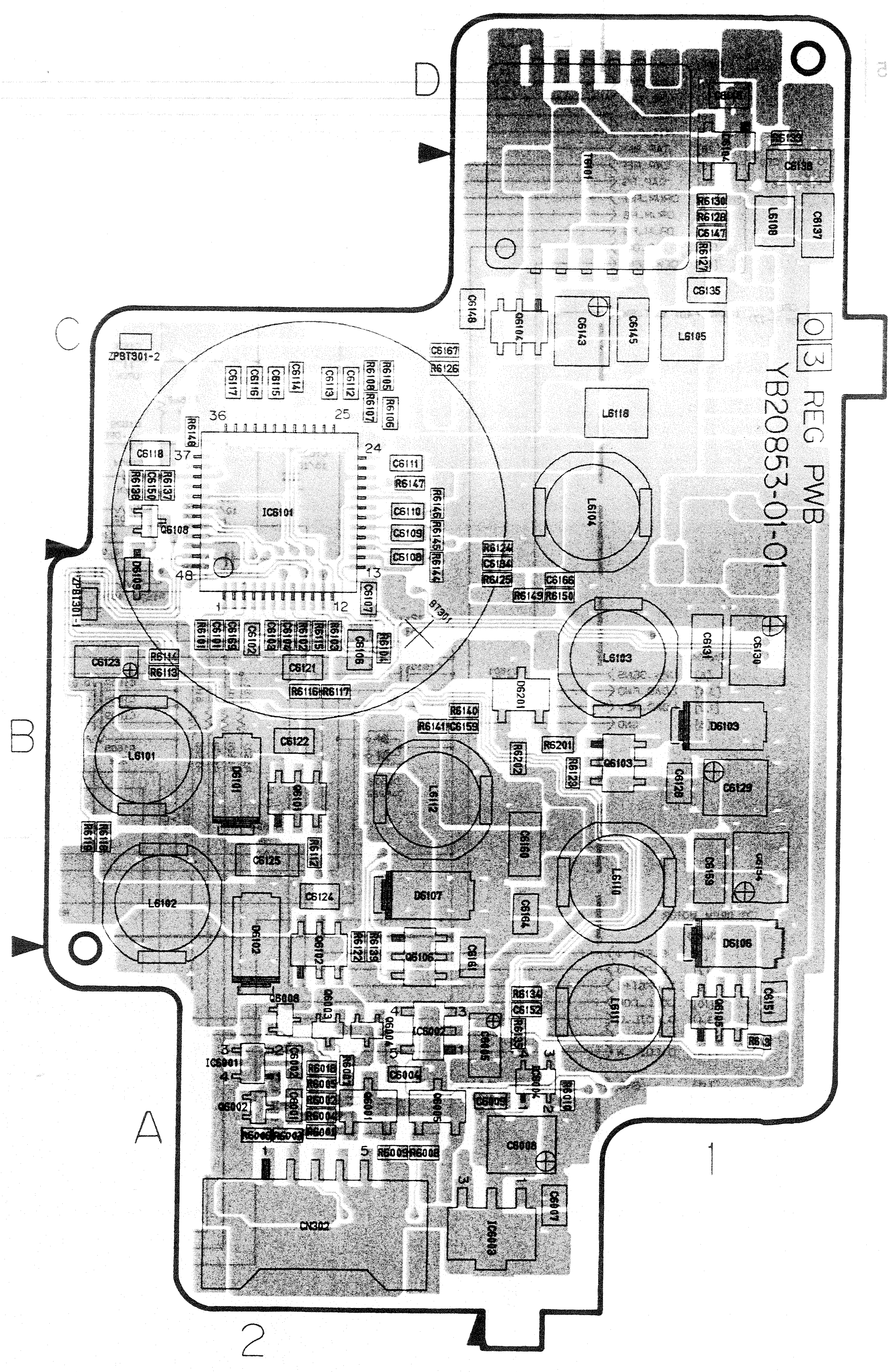
REF.No.	LOCATION		
CAPACITOR			
C6001	A	C	2A
C6002	A	C	2A
C6003	B	C	2A
C6004	A	C	2A
C6005	A	C	1A
C6006	B	C	1A
C6007	A	C	1A
C6008	A	C	1A
C6009	A	C	1A
C6010	B	C	1A
C6011	B	C	2A
C6101	A	C	2B
C6102	A	C	2B
C6103	A	C	2B
C6104	A	C	2B
C6105	B	C	2B
C6106	A	C	2B
C6107	A	C	2B
C6108	A	C	2B
C6109	A	C	2C
C6110	A	C	2C
C6111	A	C	2C
C6112	A	C	2C
C6113	A	C	2C
C6114	A	C	2C
C6115	A	C	2C
C6116	A	C	2C
C6117	A	C	2C
C6118	A	C	2C
C6119	B	C	2C
C6120	B	C	2C
C6121	A	C	2B
C6122	A	C	2B
C6123	A	C	2B
C6124	A	C	2B
C6125	A	C	2B
C6126	B	C	1A
C6127	B	C	1A
C6128	A	C	1B
C6129	A	C	1B
C6130	A	C	1B
C6131	A	C	1B
C6132	B	C	1B
C6133	B	C	1C
C6134	A	C	1B
C6135	A	C	1C
C6136	B	C	1C
C6137	A	C	1C
C6138	A	C	1C
C6139	B	C	1C
C6140	B	C	1C
C6141	B	C	1D
C6142	B	C	1D
C6143	A	C	1C
C6144	B	C	1D
C6145	A	C	1C
C6146	A	C	1D
C6147	A	C	1C
C6148	A	C	2C
C6149	B	C	2C
C6150	A	C	2C
C6151	A	C	1A
C6152	A	C	1A
C6153	A	C	1B
C6154	A	C	1B
C6155	B	C	1D
C6156	B	C	1B
C6157	B	C	2B
C6158	B	C	1B
C6159	A	C	2B
C6160	A	C	1B
C6161	A	C	2A
C6162	B	C	2B
C6163	B	C	2B
C6164	A	C	1B
C6165	B	C	1C
C6166	A	C	1B
C6167	A	C	2C
C6168	B	C	2B
C6169	A	C	2B
CONNECTOR			
CN301	B	C	1B
CN302	A	C	2A
CN303	B	C	2A
DIODE			
D6101	A	C	2B
D6102	A	C	2B
D6103	A	C	1B
D6104	A	C	1D
D6105	B	C	1D
D6106	A	C	1B
D6107	A	C	2B
D6108	B	C	2C
D6109	A	C	2B
D6201	A	C	1B
IC			
IC6001	A	C	2A
IC6002	A	C	2A
IC6003	A	C	1A
IC6004	A	C	1A
IC6101	A	C	2C
IC6102	B	C	1A
COIL			
L6001	B	C	1A
L6101	A	C	2B
L6102	A	C	2B
L6103	A	C	1B
L6104	A	C	1C
L6105	A	C	1C
L6106	B	C	1D
L6107	B	C	1C
L6108	A	C	1C
L6109	B	C	1C
L6110	A	C	1B
L6111	A	C	1A
L6112	A	C	2B
L6113	B	C	1B
L6114	B	C	2B
L6115	B	C	1C
L6116	B	C	2A
L6117	B	C	2B
L6118	A	C	1C
L6119	B	C	2B
TRANSISTOR			
Q6001	A	C	2A
Q6002	A	C	2A
Q6003	A	C	2A
Q6004	A	C	2A
Q6005	A	C	2A
Q6006	B	C	2A
Q6007	B	C	2A
Q6008	A	C	2A
Q6101	A	C	2B
Q6102	A	C	2A
Q6103	A	C	1B
Q6104	A	C	1C
Q6105	A	C	1A
Q6106	A	C	2A
Q6107	B	C	2C
Q6108	A	C	2C
Q6109	B	C	1C
RESISTOR			
R6001	A	C	2A
R6002	A	C	2A
R6003	A	C	2A
R6004	A	C	2A
R6005	A	C	2A
R6006	A	C	2A
R6007	A	C	2A
R6008	A	C	2A
R6009	A	C	2A
R6010	A	C	1A
R6011	B	C	1A
R6012	B	C	1A
R6013	B	C	1A
R6015	B	C	2B
R6016	B	C	2A
R6017	B	C	2A
R6018	A	C	2A
R6101	A	C	2B
R6102	A	C	2B
R6103	A	C	2B
R6104	A	C	2B
R6105	A	C	2C
R6106	A	C	2C
R6107	A	C	2C
R6108	A	C	2C
R6109	B	C	2B
R6110	B	C	2B
R6111	B	C	2B
R6112	A	C	2B
R6113	A	C	2B
R6114	A	C	2B
R6115	A	C	2B
R6116	A	C	2B
R6117	A	C	2B
R6118	A	C	2B
R6119	A	C	2B
R6120	B	C	1A
R6121	B	C	1A
R6122	A	C	2B
R6123	A	C	1B
R6124	A	C	1C
R6125	A	C	1B
R6126	A	C	2C
R6127	A	C	1C
R6128	A	C	1C
R6129	B	C	1D
R6130	A	C	1C
R6131	B	C	1C
R6132	B	C	1C
R6133	A	C	1D
R6134	A	C	1A
R6135	A	C	1A
R6136	B	C	2C
R6137	A	C	2C
R6138	A	C	2C
R6139	A	C	2B
R6140	A	C	2B
R6141	A	C	2B
R6143	A	C	1A
R6144	A	C	2B
R6145	A	C	2C
R6146	A	C	2C
R6147	A	C	2C
R6148	A	C	2C
R6149	A	C	1B
R6150	A	C	1B
R6151	B	C	1C
R6152	B	C	2C
R6153	B	C	2C
R6201	A	C	1B
R6202	A	C	1B
OTHER			
BT301	A	D	2C
F6101	B	C	2A
F6102	B	C	2A
F6103	B	C	1C
F6104	B	C	1C
F6105	B	C	2C
F6106	B	C	2A
T6101	A	C	1C
ZPBT301	A	C	2C
ZPBT301	A	C	2B

VOLTAGE CHART
<REGULATOR>

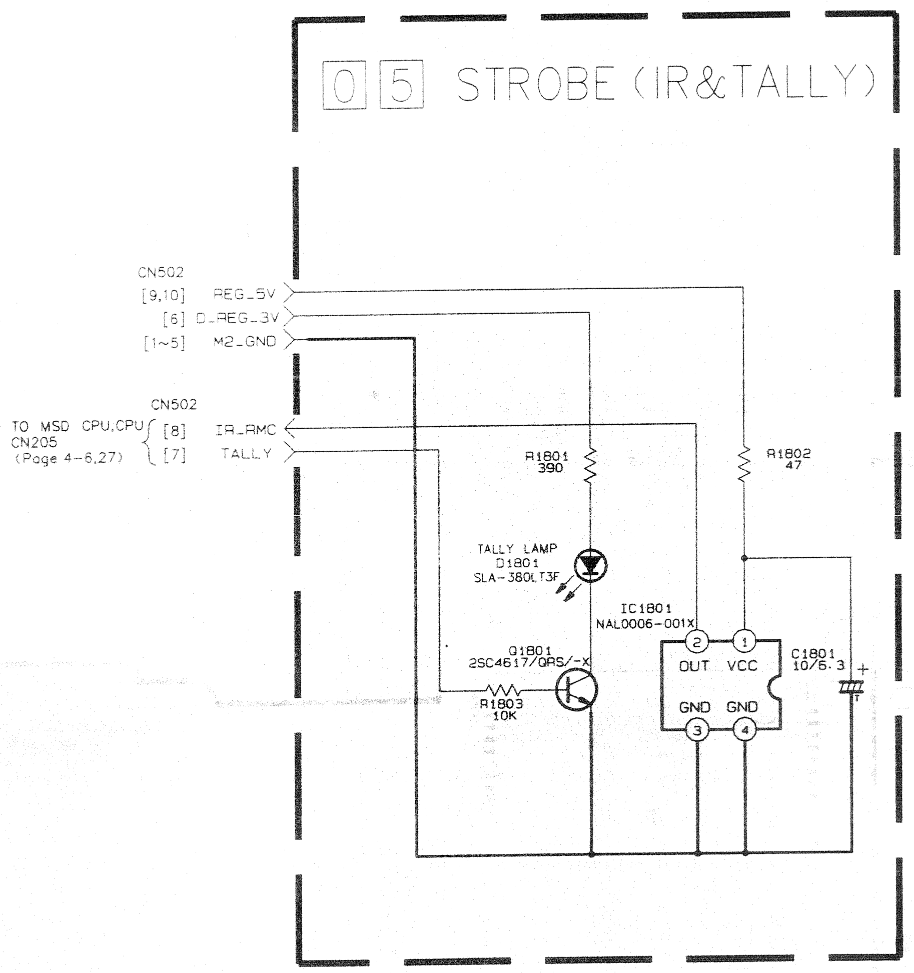
MODE PIN NO.	REC	PLAY
IC6001		
1	6.6	6.5
2	6.3	6.4
3	0	0
4	0	0
IC6002		
1	0	0
2	6.5	6.5
3	3.5	3.5
4	0	0
5	0	0
IC6003		
1	3.0	3.0
2	0	0
3	6.5	6.6
IC6004		
1	2.9	2.9
2	3.0	3.0
3	0	0
4	0	0
IC6101		
1	0.9	0.9
2	2.7	2.7
3	1.1	1.1
4	1.0	1.2
5	1.4	1.3
6	0	0
7	1.0	1.0
8	0	0
9	0	0
10	0.4	0.4
11	0.4	0.4
12	2.7	2.8
13	1.0	1.1
14	1.0	1.0
15	1.3	1.3
16	0	1.0
17	0	1.1
18	2.7	2.7
19	1.0	1.0
20	0	0
21	1.0	1.0
22	0	0
23	6.6	6.6
24	1.0	1.0
25	1.3	1.3
26	1.3	1.3
27	2.9	2.9
28	2.9	2.9
29	6.6	6.6
30	2.7	2.7
31	2.7	2.8
32	2.7	2.7
33	2.6	2.9
34	2.6	2.9
35	2.6	2.9
36	0	0
37	2.9	2.9
38	3.4	3.4
39	2.0	2.1
40	0	0
41	3.5	3.4
42	0	0
43	1.7	1.6
44	4.1	4.3
45	5.2	5.2
46	6.6	6.6
47	0	1.8
48	0	1.7
IC6102		
1	3.0	3.0
2	6.5	6.5
3	0	0
4	6.0	6.0
5	1.2	1.2
Q6001		
G	0	0
D	6.5	6.6
S	6.5	6.6
Q6002		
G	0	0
D	0	0
S	6.5	6.5
Q6003		
G	0	0
D	6.2	6.3
S	0	0
Q6004		
E	0	0
C	0	0
B	2.9	2.9
Q6005		
G	0	0
D	6.5	6.6
S	6.5	6.6

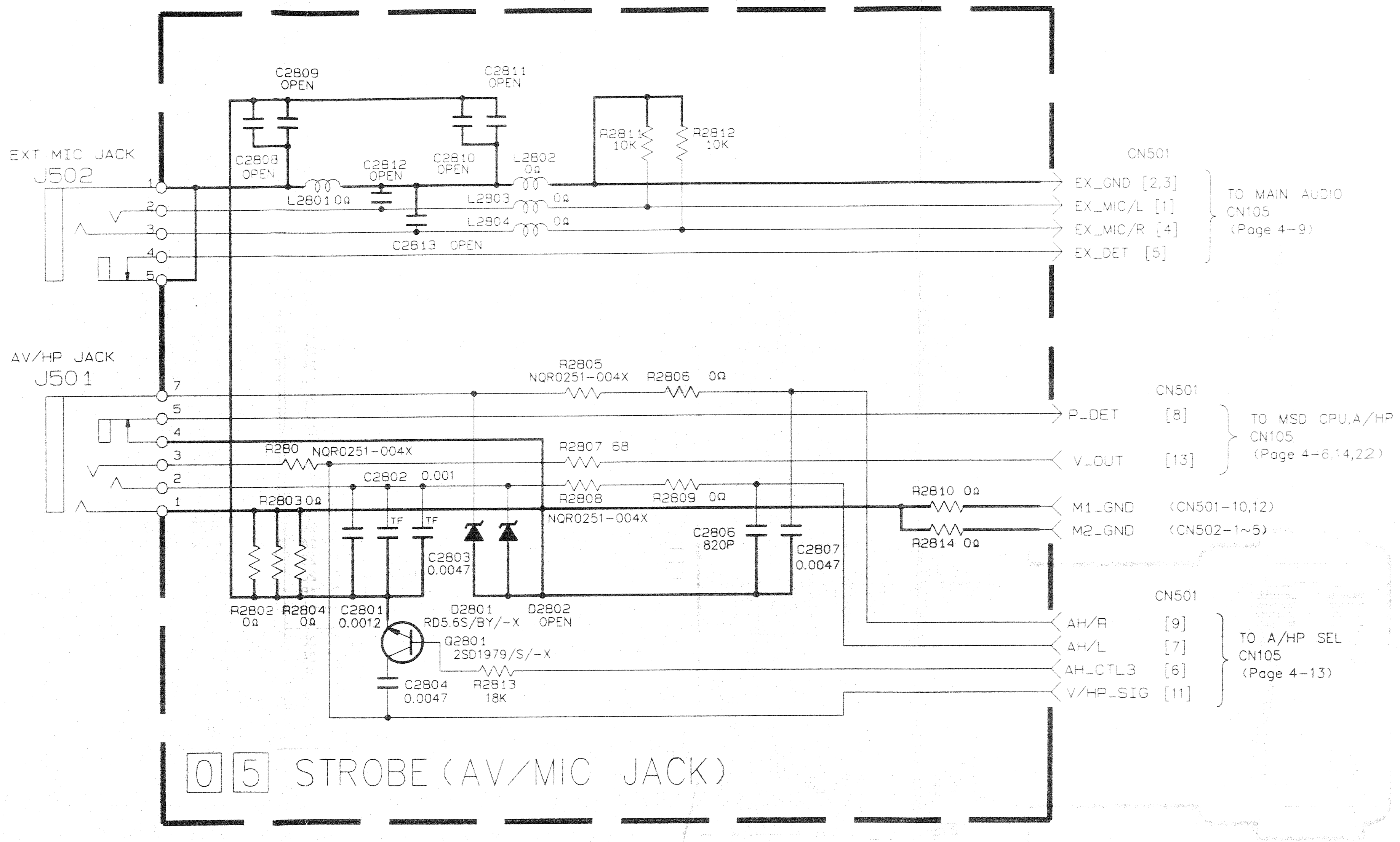
MODE PIN NO.	REC	PLAY
Q6006		
E	6.6	6.6
C	6.5	6.5
B	5.9	5.9
Q6007		
E	0	0
C	0	0
B	3.0	3.0
Q6008		
E	3.8	3.7
C	0	0
B	3.0	3.0
Q6101		
1	2.3	2.4
2	2.4	2.3
3	4.0	4.1
4	6.5	6.6
5	2.3	2.3
6	2.3	2.3
Q6102		
1	1.2	1.2
2	1.2	1.2
3	5.1	5.2
4	6.5	6.6
5	1.2	1.2
6	2.9	3.0
Q6103		
1	4.8	4.8
2	4.8	4.8
3	1.6	1.7
4	6.5	6.5
5	2.5	4.8
6	4.8	4.8
Q6104		
1	0	0
2	0	0
3	1.5	1.6
4	1.4	1.4
5	0	0
6	0	0
Q6105		
1	2.3	2.3
2	2.3	2.3
3	4.2	4.2
4	6.6	6.6
5	2.3	2.3
6	2.3	2.3
Q6106		
1	3.0	3.0
2	2.9	3.0
3	3.4	3.4
4	6.5	6.6
5	3.0	3.0
6	2.9	3.0
Q6107		
E	6.5	6.5
C	4.0	4.1
B	6.1	6.2
Q6108		
E	0	0
C	4.2	4.2
B	0	0
Q6109		
E	14.5	14.6
C	15.7	15.7
B	15.3	15.3

COMPONENT SIDE (A)


D
C
B
A
1
2
03 REG PWB
YB20853-01-01
ZPBT301-2
ZPBT301-1
BT301
T6101
R6130
R6128
R6147
R6127
L6108
C6137
C6135
C6148
D6104
C6143
C6145
L6105
C6167
R6126
L6118
IC6101
C6118
C6111
R6147
C6110
C6109
C6108
L6104
R6124
R6125
C6166
R6149
R6150
C6123
R6114
R6113
C6121
R6116
R6117
L6103
C6131
C6130
D6201
R6140
R6141
C6153
C6122
D6103
R6201
R6202
Q6103
R6123
C6129
L6101
D6101
Q6101
L6112
L6110
C6125
C6124
D6107
L6102
D6102
Q6102
Q6106
C6161
C6164
D6106
L6111
C6151
R6134
C6152
IC6001
IC6002
IC6003
IC6004
Q6002
Q6003
Q6004
Q6005
Q6008
R6009
R6008
CN302
C6007
C6008

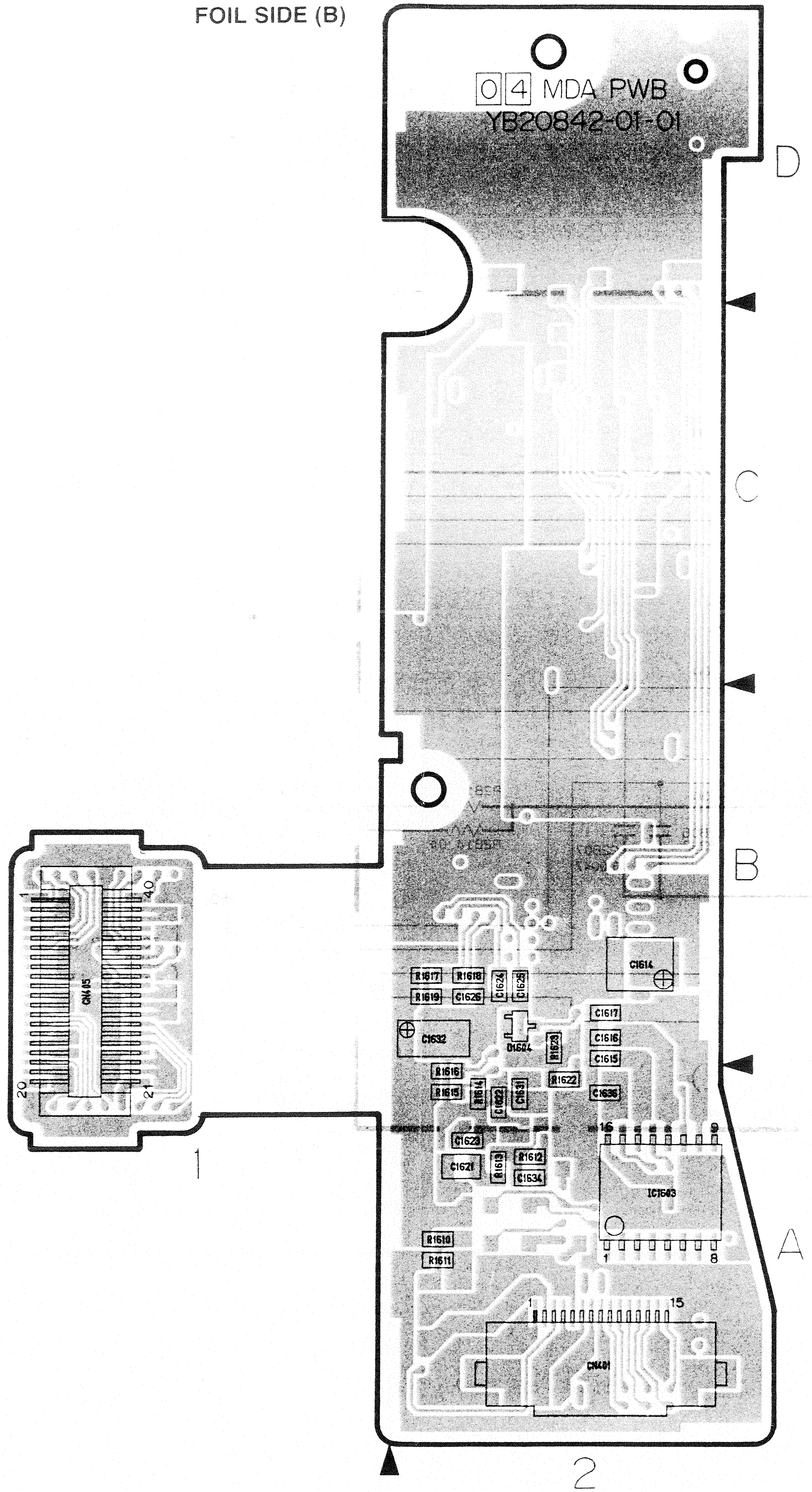
4.24 IR & TALLY AND AV/MIC JACK SCHEMATIC DIAGRAMS


05 STROBE (IR&TALLY)
CN502
[9,10] REG_5V
[6] D_REG_3V
[1~5] M2_GND
CN502
TO MSD CPU,CPU CN205 (Page 4-6,27)
[8] IR_RMC
[7] TALLY
R1801 390
R1802 47
TALLY LAMP D1801 SLA-380LT3F
IC1801 NAL0006-001X
OUT VCC
GND GND
C1801 10/6.3
Q1801 2SC4617/QRS/-X
R1803 10K


EXT MIC JACK
J502
C2809 OPEN
C2811 OPEN
C2808 OPEN
C2812 OPEN
C2810 OPEN
L2802 0Ω
R2811 10K
R2812 10K
L2801 0Ω
L2803 0Ω
L2804 0Ω
C2813 OPEN
CN501
EX_GND [2,3]
EX_MIC/L [1]
EX_MIC/R [4]
EX_DET [5]
TO MAIN AUDIO CN105 (Page 4-9)
AV/HP JACK
J501
R2805 NQR0251-004X
R2806 0Ω
CN501
P_DET [8]
V_OUT [13]
TO MSD CPU,A/HP CN105 (Page 4-6,14,22)
R280 NQR0251-004X
R2807 68
C2802 0.001
R2803 0Ω
R2808 NQR0251-004X
R2809 0Ω
R2810 0Ω
R2814 0Ω
M1_GND (CN501-10,12)
M2_GND (CN502-1~5)
C2806 820P
C2807 0.0047
C2803 0.0047
TF
TF
R2802 0Ω
R2804 0Ω
C2801 0.0012
D2801 RD5.6S/BY/-X
D2802 OPEN
Q2801 2SD1979/S/-X
C2804 0.0047
R2813 18K
CN501
AH/R [9]
AH/L [7]
AH_CTL3 [6]
V/HP_SIG [11]
TO A/HP SEL CN105 (Page 4-13)
05 STROBE (AV/MIC JACK)

4.23 MDA CIRCUIT BOARD

FOIL SIDE (B)

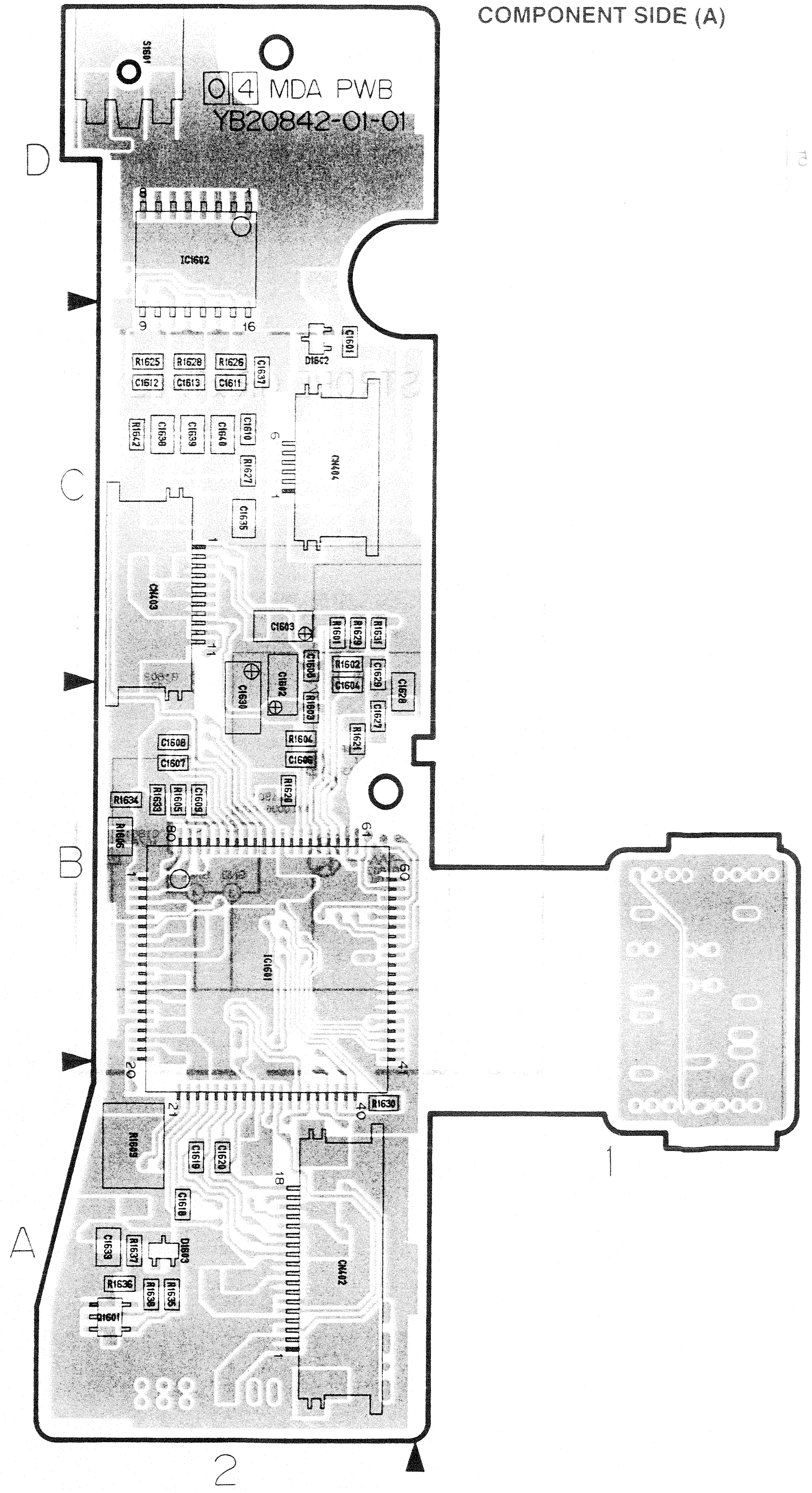

04 MDA PWB
YB20842-01-01
D
C
B
A
1
2
CN405
C1614
R1617
R1618
R1619
C1626
C1624
C1625
C1632
D1604
R1623
C1617
C1616
C1615
R1616
R1615
R1614
C1622
C1631
R1622
C1636
C1623
R1613
R1612
C1621
C1634
IC1603
R1610
R1611
CN401
1
8
15
16
20
21
40

COMPONENT PARTS LOCATION GUIDE (MDA)

REF.No.	LOCATION		
CAPACITOR			
C1601	A	C	2C
C1602	A	C	2C
C1603	A	C	2C
C1604	A	C	2C
C1605	A	C	2C
C1606	A	C	2B
C1607	A	C	2B
C1608	A	C	2B
C1609	A	C	2B
C1610	A	C	2C
C1611	A	C	2C
C1612	A	C	2C
C1613	A	C	2C
C1614	B	C	2B
C1615	B	C	2B
C1616	B	C	2B
C1617	B	C	2B
C1618	A	C	2A
C1619	A	C	2A
C1620	A	C	2A
C1621	B	C	2A
C1622	B	C	2A
C1623	B	C	2A
C1624	B	C	2B
C1625	B	C	2B
C1626	B	C	2B
C1627	A	C	2B
C1628	A	C	2B
C1629	A	C	2C
C1630	A	C	2B
C1631	B	C	2A
C1632	B	C	2B
C1633	A	C	2A
C1634	B	C	2A
C1635	A	C	2C
C1636	B	C	2A
C1637	A	C	2C
C1638	A	C	2C
C1639	A	C	2C
C1640	A	C	2C
CONNECTOR			
CN401	B	C	2A
CN402	A	C	2A
CN403	A	C	2C
CN404	A	C	2C
CN405	B	C	1B
DIODE			
D1602	A	C	2C
D1603	A	C	2A
D1604	B	C	2B
IC			
IC1601	A	C	2B

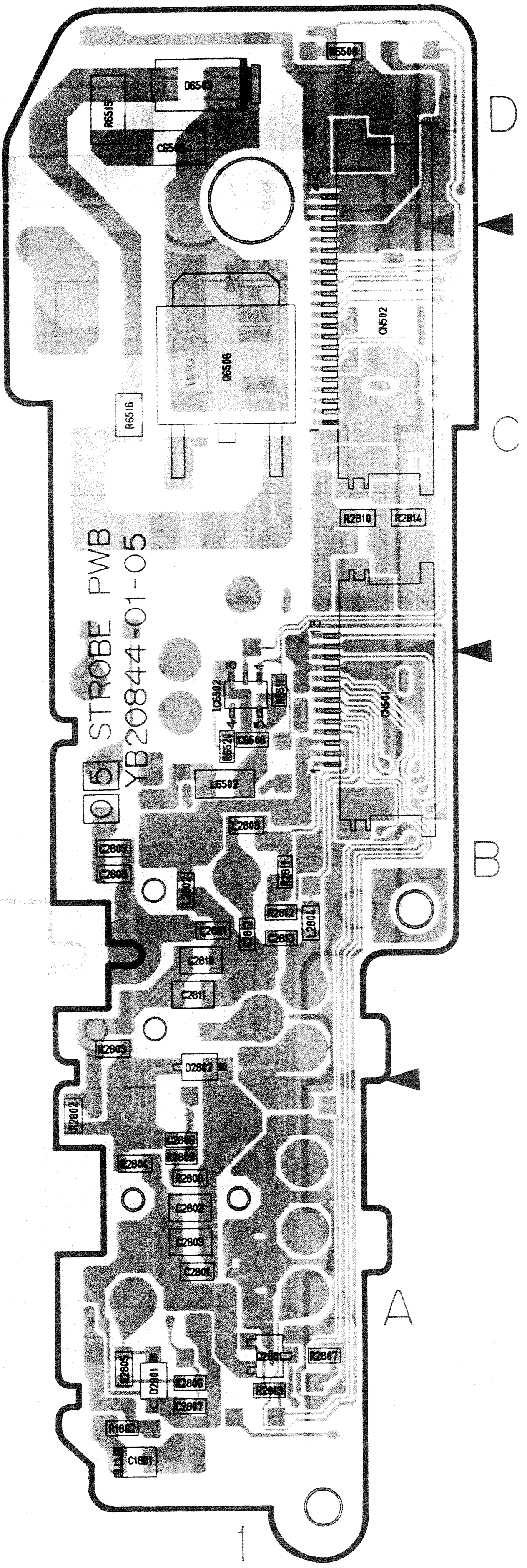
REF.No.	LOCATION		
IC1602	A	C	2D
IC1603	B	C	2A
TRANSISTOR			
Q1601	A	C	2A
RESISTOR			
R1601	A	C	2C
R1602	A	C	2C
R1603	A	C	2B
R1604	A	C	2B
R1605	A	C	2B
R1606	A	C	2B
R1609	A	C	2A
R1610	B	C	2A
R1611	B	C	2A
R1612	B	C	2A
R1613	B	C	2A
R1614	B	C	2A
R1615	B	C	2A
R1616	B	C	2A
R1617	B	C	2B
R1618	B	C	2B
R1619	B	C	2B
R1620	A	C	2B
R1621	A	C	2B
R1622	B	C	2A
R1623	B	C	2B
R1625	A	C	2C
R1626	A	C	2C
R1627	A	C	2C
R1628	A	C	2C
R1629	A	C	2C
R1630	A	C	2A
R1631	A	C	2C
R1633	A	C	2B
R1634	A	C	2B
R1635	A	C	2A
R1636	A	C	2A
R1637	A	C	2A
R1638	A	C	2A
R1642	A	C	2C
OTHER			
S1601	A	C	2D

COMPONENT SIDE (A)


S1601
04 MDA PWB
YB20842-01-01
D
C
B
A
1
2
IC1602
9
16
C1601
D1602
R1625
R1628
R1626
C1637
C1612
C1613
C1611
R1642
C1638
C1639
C1640
C1610
R1627
CN404
C1635
CN403
C1603
R1601
R1629
R1631
R1602
C1605
C1604
C1629
C1630
C1602
R1603
C1627
C1628
C1608
C1607
R1604
C1606
R1621
R1620
R1634
R1633
R1605
C1609
R1606
IC1601
61
60
20
21
40
41
R1630
R1609
C1619
C1620
C1618
CN402
18
C1633
R1637
D1603
R1636
R1638
R1635
Q1601

4.25 STROBE CIRCUIT BOARD

FOIL SIDE (B)


D
C
B
A
1
STROBE PWB
YB20844-01-05
R6500
D6503
R6515
CN502
Q6506
R6516
R2810
R2814
IC6502
C6501
L6502
C2808
C2809
C2806
R2811
R2812
C2813
C2810
C2811
R2803
D2802
R2802
R2804
C2802
C2803
C2801
R2805
D2801
R2806
C2807
R2807
R1802
C1801

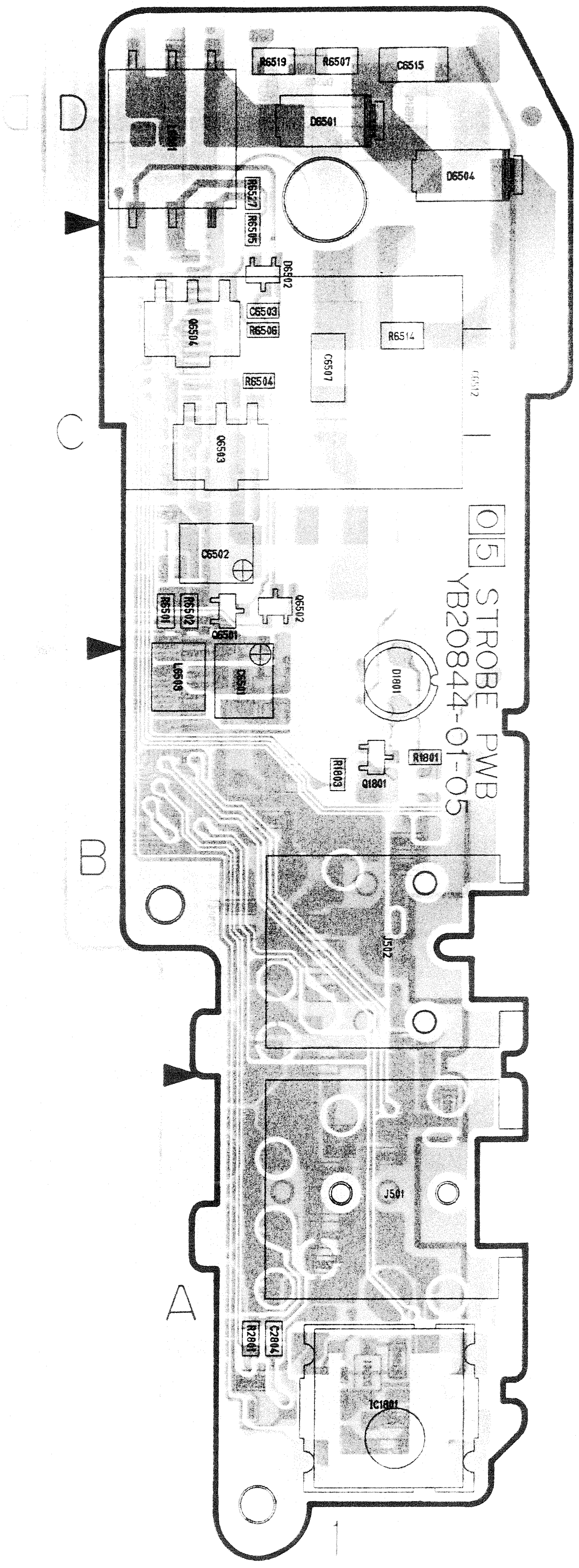
COMPONENT PARTS LOCATION GUIDE (STROBE)

REF.No.	LOCATION		
CAPACITOR			
C1801	B	C	1A
C2801	B	C	1A
C2802	B	C	1A
C2803	B	C	1A
C2804	A	C	1A
C2806	B	C	1A
C2807	B	C	1A
C2808	B	C	1B
C2809	B	C	1B
C2810	B	C	1B
C2811	B	C	1B
C2812	B	C	1B
C2813	B	C	1B
C6501	A	C	1B
C6502	A	C	1C
C6503	A	C	1C
C6506	B	C	1D
C6507	A	C	1C
C6508	B	C	1B
C6512	A	D	1C
C6515	A	C	1D
CONNECTOR			
CN501	B	C	1B
CN502	B	C	1C
DIODE			
D1801	A	C	1B
D2801	B	C	1A
D2802	B	C	1B
D6501	A	C	1D
D6502	A	C	1C
D6503	B	C	1D
D6504	A	C	1D
IC			
IC1801	A	C	1A
IC6502	B	C	1B
COIL			
L2801	B	C	1B
L2802	B	C	1B
L2803	B	C	1B
L2804	B	C	1B
L6501	A	C	1D
L6502	B	C	1B
L6503	A	C	1B
TRANSISTOR			
Q1801	A	C	1B
Q2801	B	C	1A
Q6501	A	C	1C
Q6502	A	C	1C
Q6503	A	C	1C
Q6504	A	C	1C
Q6506	B	C	1C
RESISTOR			
R1801	A	C	1B
R1802	B	C	1A
R1803	A	C	1B
R2801	A	C	1A
R2802	B	C	1A
R2803	B	C	1B
R2804	B	C	1A
R2805	B	C	1A
R2806	B	C	1A
R2807	B	C	1A
R2808	B	C	1A
R2809	B	C	1A
R2810	B	C	1C
R2811	B	C	1B
R2812	B	C	1B
R2813	B	C	1A
R2814	B	C	1C
R6501	A	C	1C
R6502	A	C	1C
R6504	A	C	1C
R6505	A	C	1C
R6506	A	C	1C
R6507	A	C	1D
R6508	B	C	1D
R6511	B	C	1B
R6514	A	C	1C
R6515	B	C	1D
R6516	B	C	1C
R6519	A	C	1D
R6520	B	C	1B
R6527	A	C	1D
OTHER			
J501	A	D	1A
J502	A	D	1B

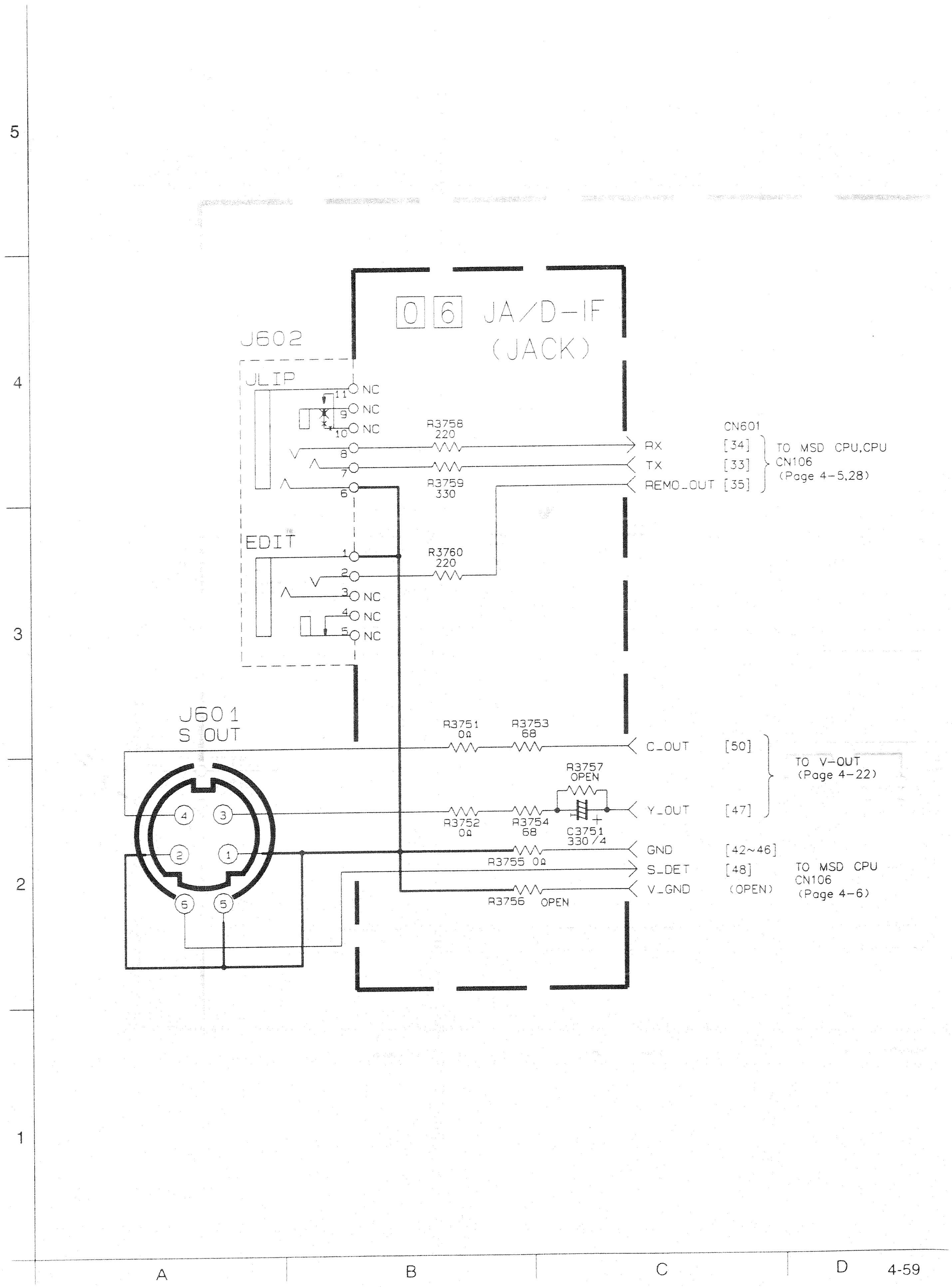
COMPONENT PARTS LOCATION GUIDE (STROBE)

REF.No.	LOCATION		
CAPACITOR			
C1801	B	C	1A
C2801	B	C	1A
C2802	B	C	1A
C2803	B	C	1A
C2804	A	C	1A
C2806	B	C	1A
C2807	B	C	1A
C2808	B	C	1B
C2809	B	C	1B
C2810	B	C	1B
C2811	B	C	1B
C2812	B	C	1B
C2813	B	C	1B
C6501	A	C	1B
C6502	A	C	1C
C6503	A	C	1C
C6506	B	C	1D
C6507	A	C	1C
C6508	B	C	1B
C6512	A	D	1C
C6515	A	C	1D
CONNECTOR			
CN501	B	C	1B
CN502	B	C	1C
DIODE			
D1801	A	C	1B
D2801	B	C	1A
D2802	B	C	1B
D6501	A	C	1D
D6502	A	C	1C
D6503	B	C	1D
D6504	A	C	1D
IC			
IC1801	A	C	1A
IC6502	B	C	1B
COIL			
L2801	B	C	1B
L2802	B	C	1B
L2803	B	C	1B
L2804	B	C	1B
L6501	A	C	1D
L6502	B	C	1B
L6503	A	C	1B
TRANSISTOR			
Q1801	A	C	1B
Q2801	B	C	1A
Q6501	A	C	1C
Q6502	A	C	1C
Q6503	A	C	1C
Q6504	A	C	1C
Q6506	B	C	1C
RESISTOR			
R1801	A	C	1B
R1802	B	C	1A
R1803	A	C	1B
R2801	A	C	1A
R2802	B	C	1A
R2803	B	C	1B
R2804	B	C	1A
R2805	B	C	1A
R2806	B	C	1A
R2807	B	C	1A
R2808	B	C	1A
R2809	B	C	1A
R2810	B	C	1C
R2811	B	C	1B
R2812	B	C	1B
R2813	B	C	1A
R2814	B	C	1C
R6501	A	C	1C
R6502	A	C	1C
R6504	A	C	1C
R6505	A	C	1C
R6506	A	C	1C
R6507	A	C	1D
R6508	B	C	1D
R6511	B	C	1B
R6514	A	C	1C
R6515	B	C	1D
R6516	B	C	1C
R6519	A	C	1D
R6520	B	C	1B
R6527	A	C	1D
OTHER			
J501	A	D	1A
J502	A	D	1B

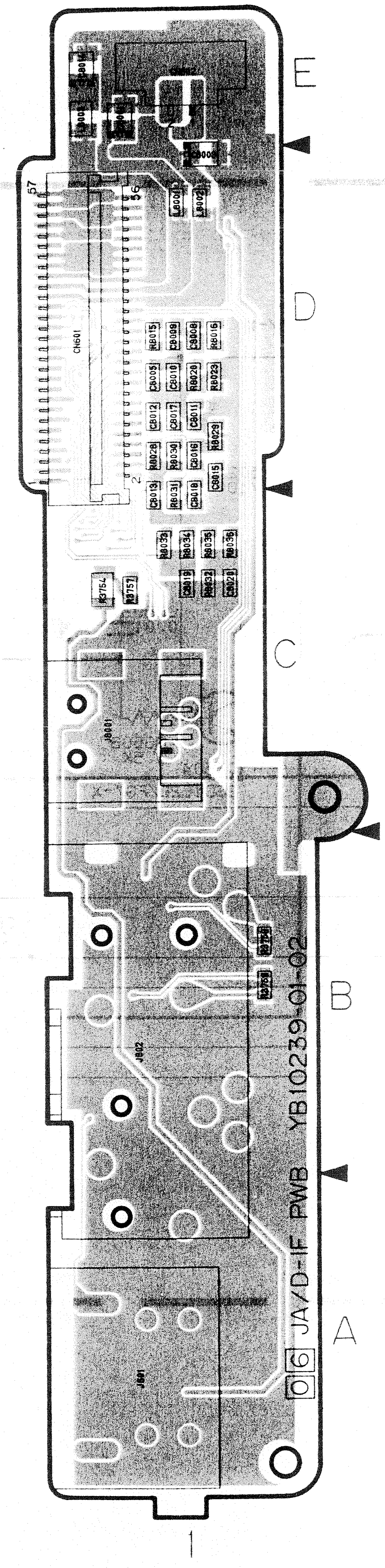
COMPONENT SIDE (A)


D
C
B
A
1
R6519
R6507
C6515
D6501
D6504
R6527
R6505
D6502
C6503
R6506
Q6504
R6514
C6507
R6504
Q6503
05
STROBE PWB
YB20844-01-05
C6502
R6501
R6502
Q6501
Q6502
L6503
C6501
D1801
R1803
Q1801
R1801
J502
J501
R2801
C2804
IC1801

JACK SCHEMATIC DIAGRAM AND JA/D-IF CIRCUIT BOARD


06 JA/D-IF
(JACK)
J602
JLIP
NC
NC
NC
R3758
220
RX
TX
REMO_OUT
R3759
330
CN601
[34]
[33]
[35]
TO MSD CPU,CPU
CN106
(Page 4-5,28)
EDIT
R3760
220
NC
NC
NC
J601
S OUT
R3751
0Ω
R3753
68
R3757
OPEN
C_OUT
[50]
TO V-OUT
(Page 4-22)
R3752
0Ω
R3754
68
C3751
330/4
Y_OUT
[47]
GND
[42~46]
R3755 0Ω
S_DET
[48]
V_GND
(OPEN)
R3756 OPEN
TO MSD CPU
CN106
(Page 4-6)
5
4
3
2
1
A
B
C
D

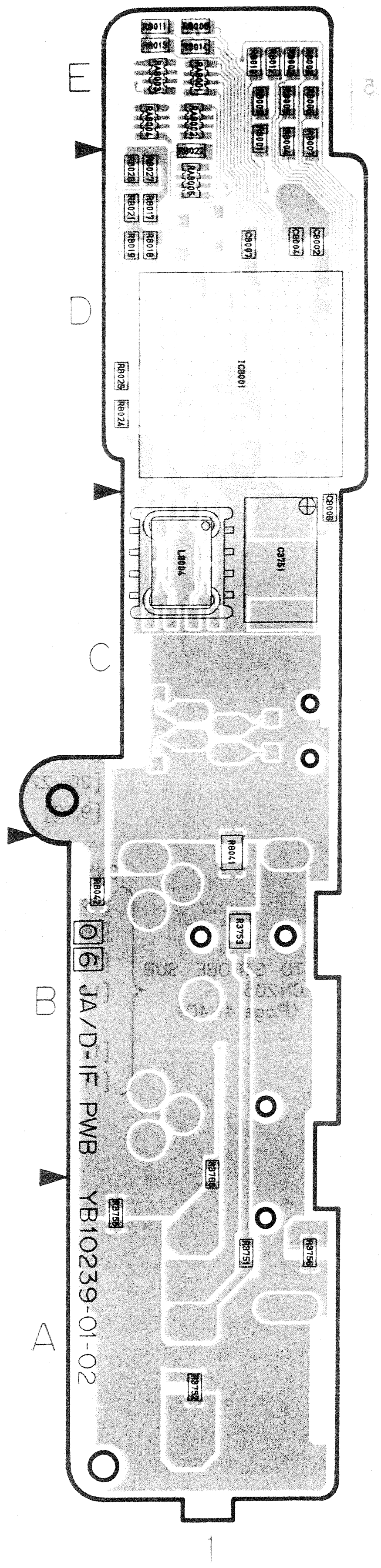
FOIL SIDE (B)


E
D
C
B
A
1
06 JA/D-IF PWB YB10239-01-02
CN601
J601
J602
J8001

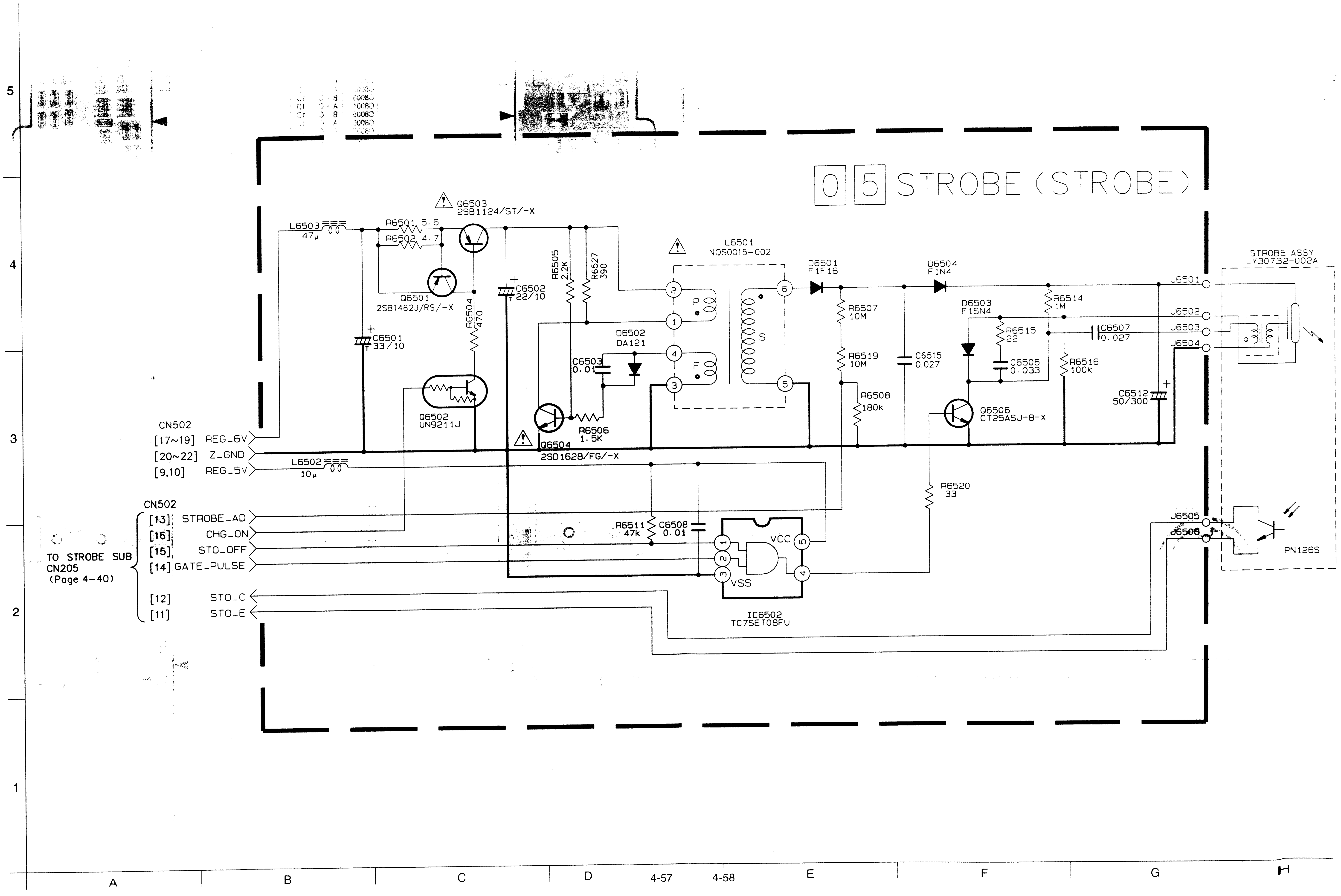
COMPONENT PARTS
LOCATION
GUIDE (JA/D-IF)

REF.No.	LOCATION		
CAPACITOR			
C3751	A	C	1C
C8001	B	C	1E
C8002	A	C	1D
C8003	B	C	1D
C8004	A	C	1D
C8005	B	C	1D
C8006	A	C	1C
C8007	A	C	1D
C8008	B	C	1D
C8009	B	C	1D
C8010	B	C	1D
C8011	B	C	1D
C8012	B	C	1D
C8013	B	C	1C
C8014	B	C	1E
C8015	B	C	1D
C8016	B	C	1D
C8017	B	C	1D
C8018	B	C	1C
C8019	B	C	1C
C8020	B	C	1C
CONNECTOR			
CN601	B	C	1D
CN602	B	C	1E
IC			
IC8001	A	C	1D
COIL			
L8001	B	C	1D
L8002	B	C	1D
L8003	B	C	1E
L8004	A	C	1C
RESISTOR			
R3751	A	C	1A
R3752	A	C	1A
R3753	A	C	1B
R3754	B	C	1C
R3755	A	C	1A
R3756	A	C	1A
R3757	B	C	1C
R3758	B	C	1B
R3759	B	C	1B
R3760	A	C	1B
R8001	A	C	1E
R8002	A	C	1E
R8003	A	C	1E
R8004	A	C	1E
R8005	A	C	1E
R8006	A	C	1E
R8007	A	C	1E
R8008	A	C	1E
R8009	A	C	1E
R8010	A	C	1E
R8011	A	C	1E
R8012	A	C	1E
R8013	A	C	1E
R8014	A	C	1E
R8015	B	C	1D
R8016	B	C	1D
R8017	A	C	1D
R8018	A	C	1D
R8019	A	C	1D
R8020	B	C	1D
R8021	A	C	1D
R8022	A	C	1D
R8023	B	C	1D
R8024	A	C	1D
R8025	A	C	1D
R8026	A	C	1D
R8027	A	C	1D
R8028	B	C	1D
R8029	B	C	1D
R8030	B	C	1D
R8031	B	C	1C
R8032	B	C	1C
R8033	B	C	1C
R8034	B	C	1C
R8035	B	C	1C
R8036	B	C	1C
R8041	A	C	1B
R8042	A	C	1B
RA8001	A	C	1E
RA8002	A	C	1E
RA8003	A	C	1E
RA8004	A	C	1E
RA8005	A	C	1D
RA8006	A	C	1C
RA8007	A	C	1C
OTHER			
J601	B	D	1A
J602	B	D	1B
J8001	B	D	1C

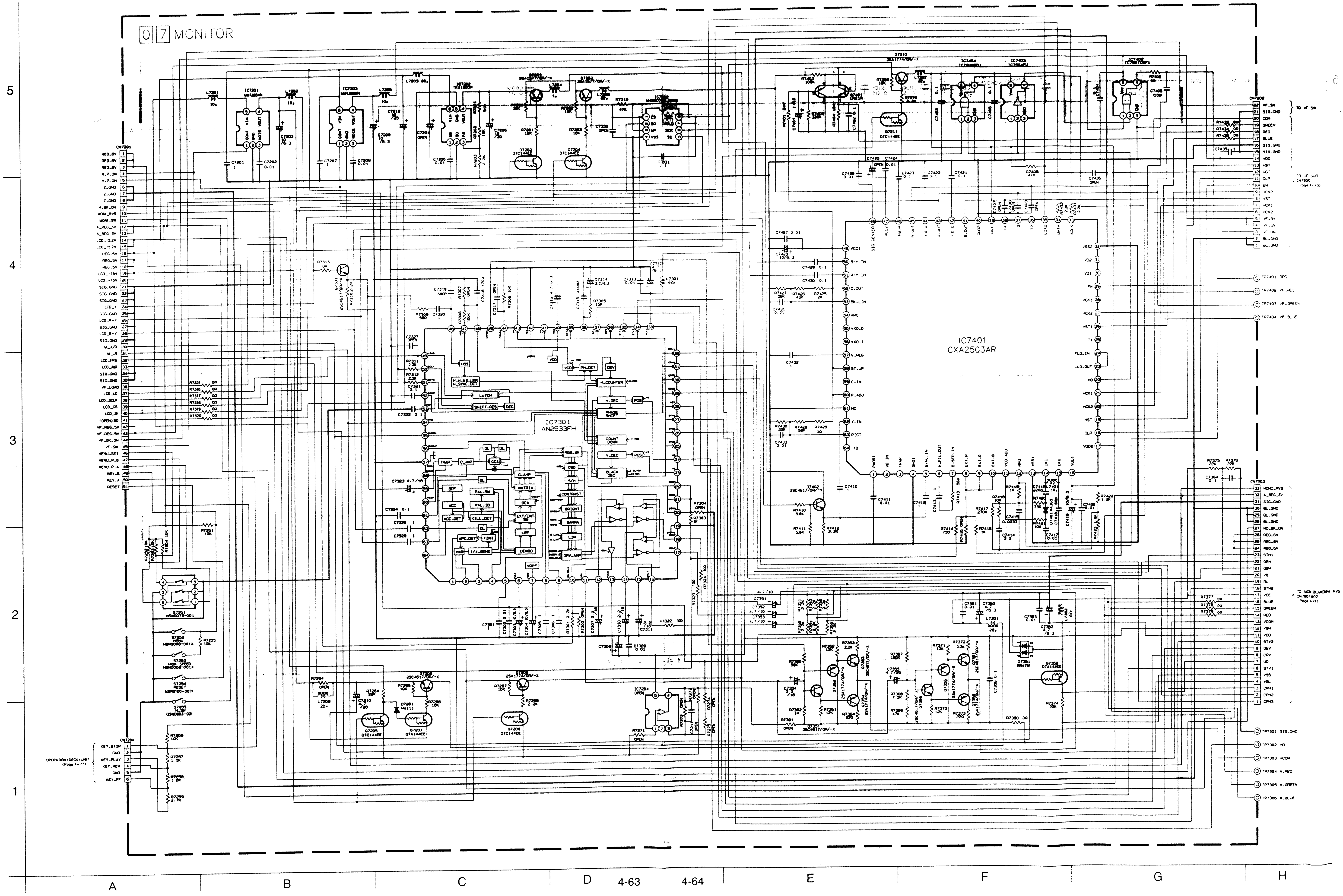
COMPONENT SIDE (A)


E
D
C
B
A
1
06 JA/D-IF PWB YB10239-01-02
IC8001
L8004
C3751

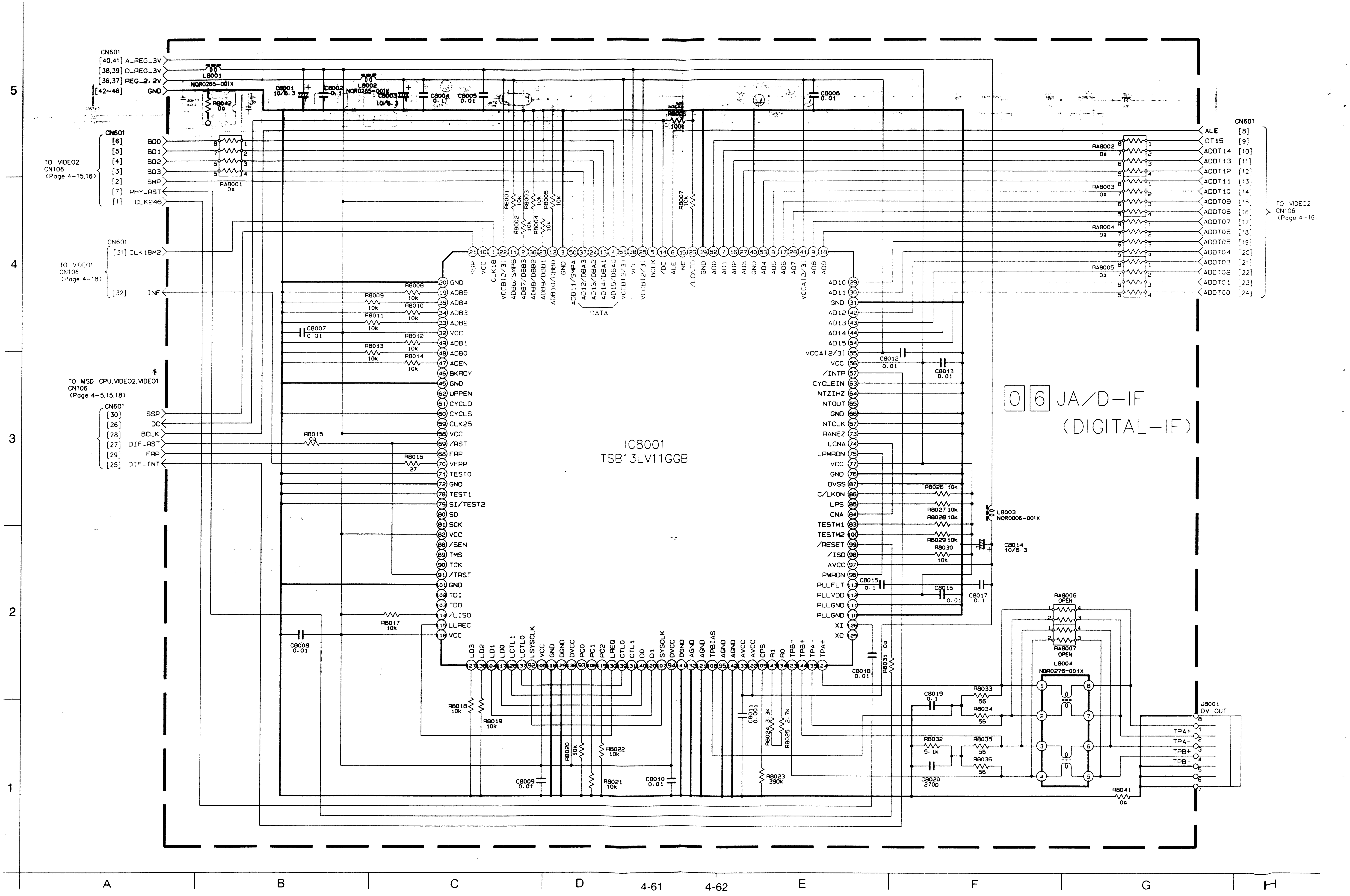
4.26 STROBE SCHEMATIC DIAGRAM


05 STROBE (STROBE)
L6503 47μ
R6501 5.6
R6502 4.7
Q6503 2SB1124/ST/-X
Q6501 2SB1462J/RS/-X
C6501 33/10
R6504 470
Q6502 UN9211J
C6502 22/10
R6505 2.2K
R6527 390
L6501 NQS0015-002
P
F
S
D6502 DA121
C6503 0.01
R6506 1.5K
Q6504 2SD1628/FG/-X
D6501 F1F16
D6504 F1N4
R6507 10M
R6519 10M
R6508 180k
C6515 0.027
D6503 F1SN4
R6514 1M
R6515 22
C6506 0.033
C6507 0.027
R6516 100k
Q6506 CT25ASJ-8-X
C6512 50/300
R6520 33
STROBE ASSY Y30732-002A
J6501
J6502
J6503
J6504
J6505
J6506
PN126S
CN502
[17~19] REG_6V
[20~22] Z_GND
[9,10] REG_5V
L6502 10μ
CN502
[13] STROBE_AD
[16] CHG_ON
[15] STO_OFF
[14] GATE_PULSE
[12] STO_C
[11] STO_E
TO STROBE SUB CN205 (Page 4-40)
R6511 47k
C6508 0.01
VCC
VSS
IC6502 TC7SET08FU
1
2
3
4
5
A
B
C
D
E
F
G
H

4.29 MONITOR SCHEMATIC DIAGRAM

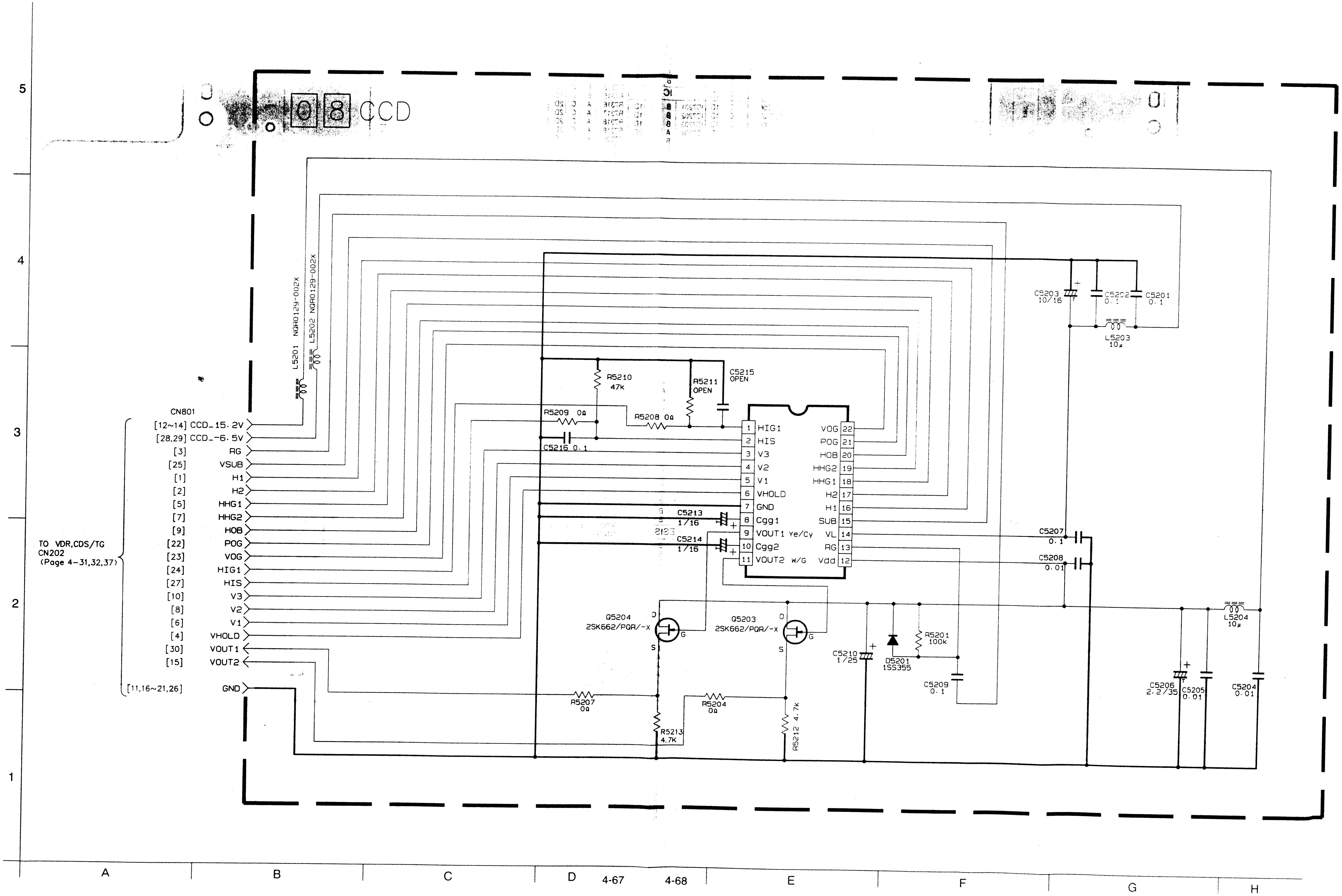

07 MONITOR
IC7201
IC7203
IC7202
IC7204
IC7301
AN2533FH
IC7401
CXA2503AR
IC7402
IC7403
IC7404
Q7201
Q7202
Q7203
Q7204
Q7205
Q7206
Q7207
Q7208
Q7209
Q7210
Q7211
Q7301
Q7402
CN7201
REG_8V
REG_8V
REG_8V
H_P_ON
V_P_ON
Z_GND
Z_GND
Z_GND
H_BK_ON
MONI_RVS
MONI_SW
A_REG_3V
A_REG_3V
LCD_15.2V
LCD_15.2V
REG_5V
REG_5V
REG_5V
LCD_-15V
LCD_-15V
SIG_GND
SIG_GND
SIG_GND
LCD_Y
SIG_GND
LCD_R-Y
SIG_GND
LCD_B-Y
SIG_GND
M_U/D
M_LR
LCD_FRC
LCD_IND
SIG_GND
SIG_GND
VF_LOAD
LCD_LD
LCD_SCLK
LCD_CS
LCD_SI
(OPEN) SO
VF_REG_5V
VF_REG_5V
VF_BK_ON
VF_SW
MENU_SET
MENU_P_B
MENU_P_A
KEY_B
KEY_A
RESET
CN7202
VF_SW
SIG_GND
COM
GREEN
RED
BLUE
SIG_GND
SIG_GND
VDD
HST
RGT
CLR
EN
VCK2
VST
HCK1
HCK2
VF_5V
VF_5V
VF_ON
BL_GND
BL_GND
TO VF SW
TO VF SUB CN7650 (Page 4-73)
TP7401 RPD
TP7402 VF_RED
TP7403 VF_GREEN
TP7404 VF_BLUE
CN7203
MONI_RVS
A_REG_3V
SIG_GND
BL_GND
BL_GND
BL_GND
MO_BK_ON
REG_6V
REG_6V
REG_6V
STH1
OEH
Q2H
VB
RL
STH2
VEE
BLUE
GREEN
RED
VCOM
VGH
VDD
STV2
OEV
CPV
UD
STV1
VSS
VGL
CPH1
CPH2
CPH3
TO MON BL/MONI RVS CN7601/602 (Page 4-71)
TP7301 SIG_GND
TP7302 HD
TP7303 VCOM
TP7304 M_RED
TP7305 M_GREEN
TP7306 M_BLUE
CN7204
KEY_STOP
GND
KEY_PLAY
KEY_REW
GND
KEY_FF
OPERATION (DECK) UNIT (Page 4-77)
S7251
S7252 MENU
S7253 HIGH SPEED
S7254 RESET
S7255
A
B
C
D
E
F
G
H
1
2
3
4
5

4.28 DIGITAL-IF SCHEMATIC DIAGRAM



CN601
[40,41] A_REG_3V
[38,39] D_REG_3V
[36,37] REG_2.2V
[42~46] GND
L8001 NQR0265-001X
R8042 0Ω
C8001 10/6.3
C8002 0.1
L8002 NQR0265-001X
C8003 10/6.3
C8004 0.1
C8005 0.01
C8006 0.01
R8006 100k
CN601
[6] BD0
[5] BD1
[4] BD2
[3] BD3
[2] SMP
[7] PHY_RST
[1] CLK246
TO VIDEO2 CN106 (Page 4-15,16)
RA8001 0Ω
R8001 10k
R8002 10k
R8003 10k
R8004 10k
R8005 10k
R8007 10k
CN601
[31] CLK18M2
[32] INF
TO VIDEO1 CN106 (Page 4-18)
TO MSD CPU,VIDEO2,VIDEO1 CN106 (Page 4-5,15,18)
CN601
[30] SSP
[26] DC
[28] BCLK
[27] DIF_RST
[29] FRP
[25] DIF_INT
R8008 10k
R8009 10k
R8010 10k
R8011 10k
R8012 10k
R8013 10k
R8014 10k
R8015 0Ω
R8016 27
R8017 10k
C8007 0.01
C8008 0.01
20 GND
19 ADB5
35 ADB4
34 ADB3
33 ADB2
32 VCC
49 ADB1
48 ADB0
47 ADEN
46 BKRDY
45 GND
62 UPPEN
61 CYCLO
60 CYCLS
59 CLK25
58 VCC
69 /RST
68 FRP
70 VFRP
71 TESTO
72 GND
78 TEST1
79 SI/TEST2
80 SO
81 SCK
82 VCC
88 /SEN
89 TMS
90 TCK
91 /TRST
101 GND
102 TDI
103 TDO
114 /LISO
115 LLREC
116 VCC
SSP VCC CLK18 VCCB(2/3) ADB6/SMPB ADB7/DBB3 ADB8/DBB2 ADB9/DBB1 ADB10/DBB0 GND ADB11/SMPA AD12/DBA3 AD13/DBA2 AD14/DBA1 AD15/DBA0 VCCB(2/3) VCC VCCB(2/3) BCLK /DC ALE NC /LCNTD GND AD0 AD1 AD2 AD3 GND AD4 AD5 AD6 AD7 VCCA(2/3) AD8 AD9
DATA
IC8001
TSB13LV11GGB
AD10 29
AD11 30
GND 31
AD12 42
AD13 43
AD14 44
AD15 54
VCCA(2/3) 55
VCC 56
/INTP 57
CYCLEIN 63
NTZIHZ 64
NTOUT 65
GND 66
NTCLK 67
RANEZ 73
LCNA 74
LPWRDN 75
VCC 77
GND 76
DVSS 87
C/LKON 86
LPS 85
CNA 84
TESTM1 83
TESTM2 100
/RESET 99
/ISD 98
AVCC 97
PWRDN 96
PLLFLT 113
PLLVDD 112
PLLGND 111
PLLGND 110
XI 126
XO 125
C8012 0.01
C8013 0.01
R8026 10k
R8027 10k
R8028 10k
R8029 10k
R8030 10k
L8003 NQR0006-001X
C8014 10/6.3
C8015 0.1
C8016 0.01
C8017 0.1
LD3 LD2 LD1 LD0 LCTL1 LCTL0 LSYSCLK VCC GND DGND DVCC PC0 PC1 PC2 LREQ CTL0 CTL1 D0 D1 SYSCLK DVCC DGND AGND AGND TPBIAS AGND AGND AVCC AVCC CPS R1 R0 TPB- TPB+ TPA- TPA+
R8018 10k
R8019 10k
R8020 10k
R8021 10k
R8022 10k
C8009 0.01
C8010 0.01
C8011 0.001
R8024 3.3k
R8025 2.7k
R8023 390k
C8018 0.01
R8031 0Ω
C8019 0.1
R8032 5.1k
C8020 270p
R8033 56
R8034 56
R8035 56
R8036 56
RA8006 OPEN
RA8007 OPEN
L8004 NQR0276-001X
R8041 0Ω
J8001 DV OUT
TPA+
TPA-
TPB+
TPB-
CN601
ALE [8]
DT15 [9]
ADDT14 [10]
ADDT13 [11]
ADDT12 [12]
ADDT11 [13]
ADDT10 [14]
ADDT09 [15]
ADDT08 [16]
ADDT07 [17]
ADDT06 [18]
ADDT05 [19]
ADDT04 [20]
ADDT03 [21]
ADDT02 [22]
ADDT01 [23]
ADDT00 [24]
TO VIDEO2 CN106 (Page 4-16)
RA8002 0Ω
RA8003 0Ω
RA8004 0Ω
RA8005 0Ω
06 JA/D-IF (DIGITAL-IF)
1
2
3
4
5
A
B
C
D
E
F
G
H

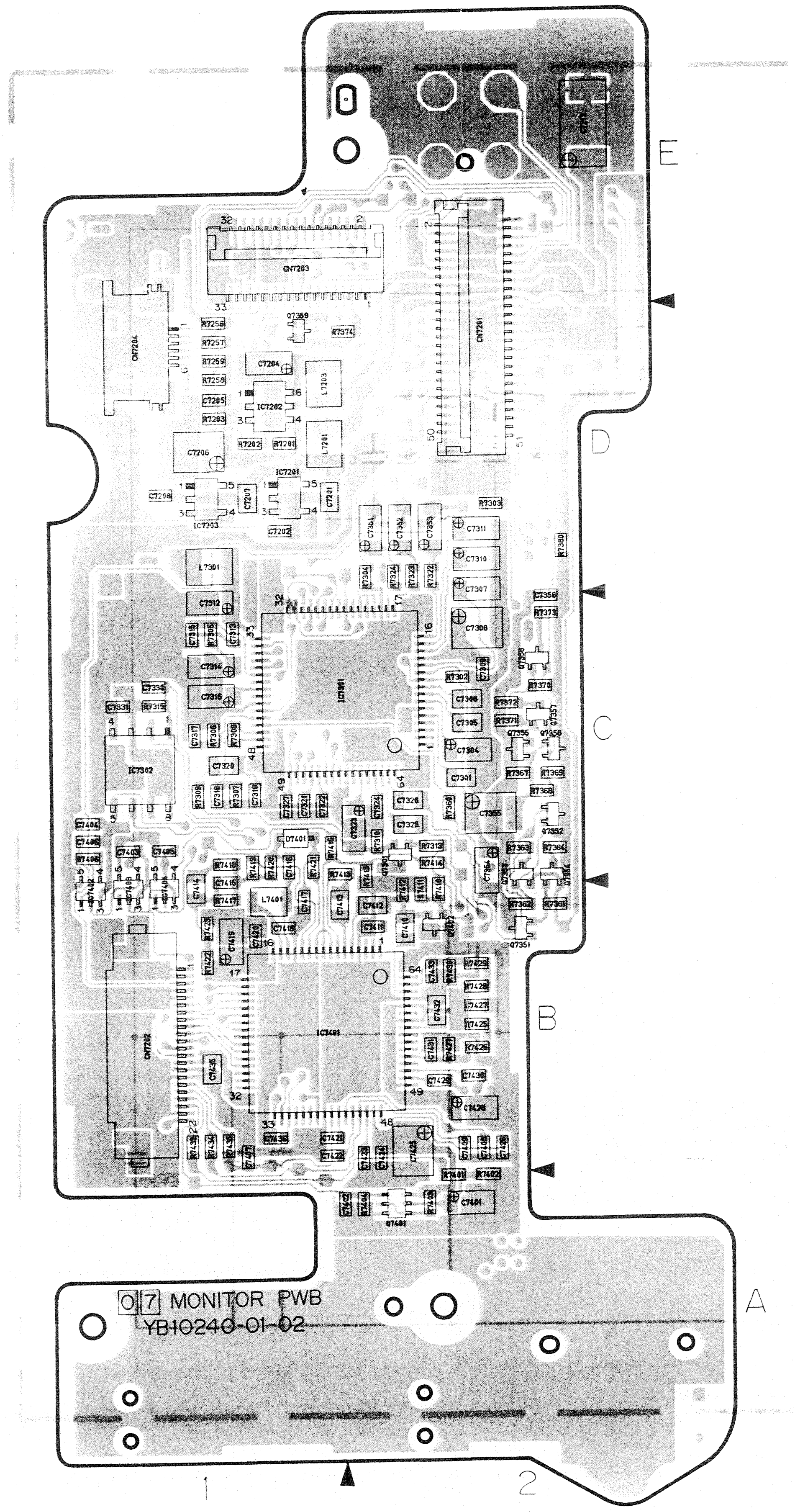
4.31 CCD SCHEMATIC DIAGRAM



08 CCD
CN801
[12~14] CCD_15.2V
[28,29] CCD_-6.5V
[3] RG
[25] VSUB
[1] H1
[2] H2
[5] HHG1
[7] HHG2
[9] HOB
[22] POG
[23] VOG
[24] HIG1
[27] HIS
[10] V3
[8] V2
[6] V1
[4] VHOLD
[30] VOUT1
[15] VOUT2
[11,16~21,26] GND
TO VDR,CDS/TG
CN202
(Page 4-31,32,37)
L5201 NQR0129-002X
L5202 NQR0129-002X
R5210 47k
R5211 OPEN
C5215 OPEN
R5209 0Ω
R5208 0Ω
C5216 0.1
C5213 1/16
C5214 1/16
1 HIG1
2 HIS
3 V3
4 V2
5 V1
6 VHOLD
7 GND
8 Cgg1
9 VOUT1 Ye/Cy
10 Cgg2
11 VOUT2 W/G
22 VOG
21 POG
20 HOB
19 HHG2
18 HHG1
17 H2
16 H1
15 SUB
14 VL
13 RG
12 Vdd
C5203 10/16
C5202 0.1
C5201 0.1
L5203 10μ
C5207 0.1
C5208 0.01
Q5204 2SK662/PQR/-X
Q5203 2SK662/PQR/-X
D
G
S
R5207 0Ω
R5204 0Ω
R5213 4.7K
R5212 4.7k
C5210 1/25
D5201 1SS355
R5201 100k
C5209 0.1
C5206 2.2/35
C5205 0.01
C5204 0.01
L5204 10μ
5
4
3
2
1
A
B
C
D
E
F
G
H

4.30 MONITOR CIRCUIT BOARD

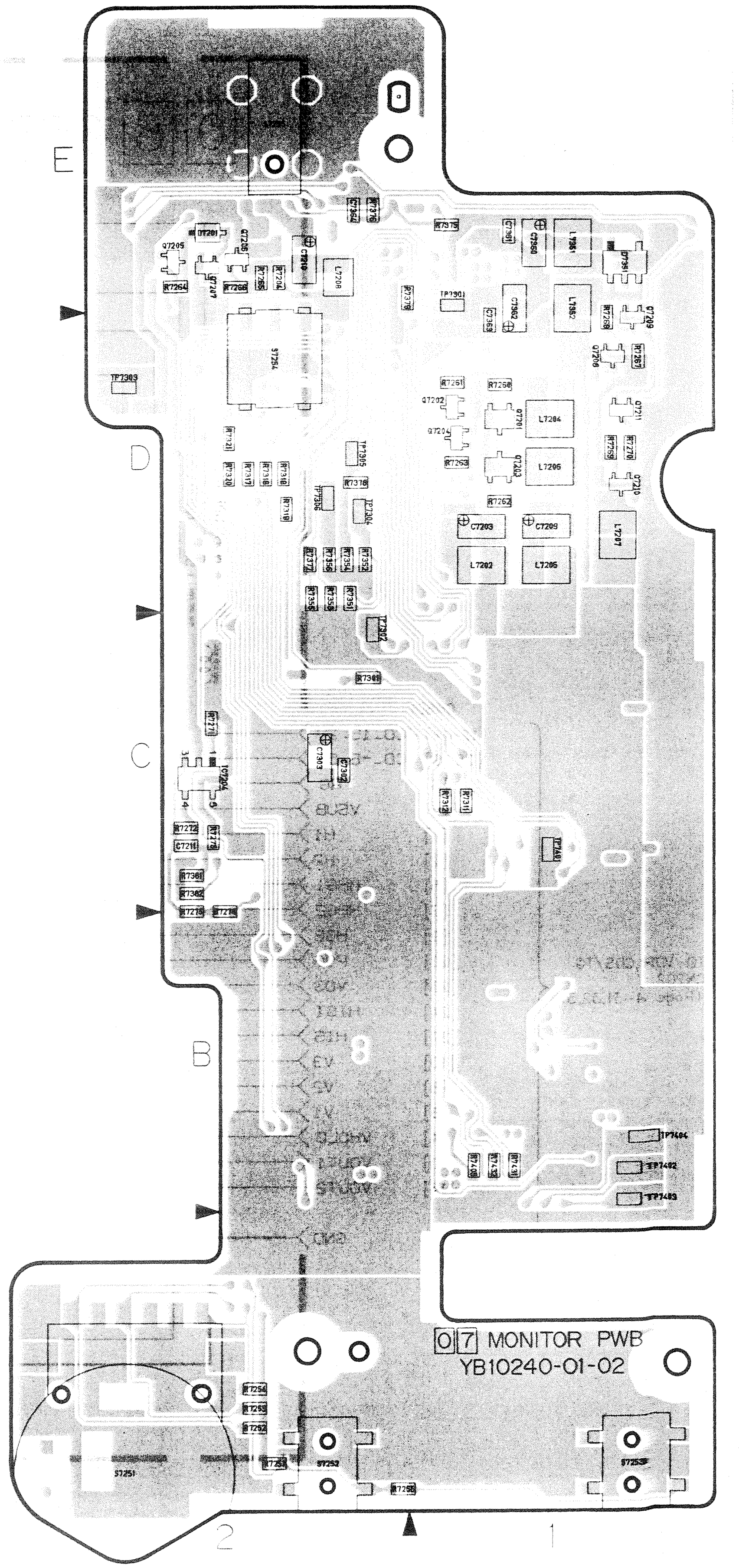
FOIL SIDE (B)



COMPONENT PARTS LOCATION GUIDE (MONITOR)

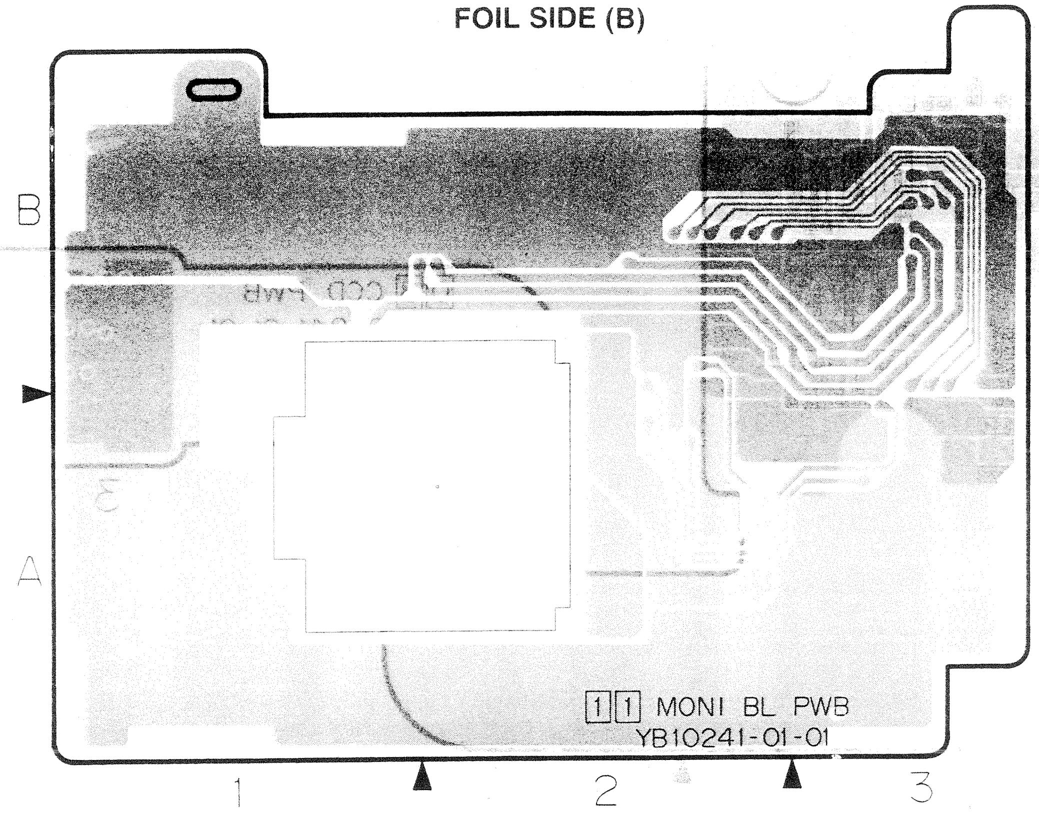
REF.No.	LOCATION		
CAPACITOR			
C7201	B	C	1D
C7202	B	C	1D
C7203	A	C	1D
C7204	B	C	1D
C7205	B	C	1D
C7206	B	C	1D
C7207	B	C	1D
C7208	B	C	1D
C7209	A	C	1D
C7210	A	C	2E
C7211	A	C	2C
C7212	B	C	2E
C7301	B	C	2C
C7302	A	C	2C
C7303	A	C	2C
C7304	B	C	2C
C7305	B	C	2C
C7306	B	C	2C
C7307	B	C	2D
C7308	B	C	2C
C7309	B	C	2C
C7310	B	C	2D
C7311	B	C	2D
C7312	B	C	1C
C7313	B	C	1C
C7314	B	C	1C
C7315	B	C	1C
C7316	B	C	1C
C7317	B	C	1C
C7318	B	C	1C
C7319	B	C	1C
C7320	B	C	1C
C7321	B	C	1C
C7322	B	C	1C
C7323	B	C	2C
C7324	B	C	2C
C7325	B	C	2C
C7326	B	C	2C
C7327	B	C	1C
C7330	B	C	1C
C7331	B	C	1C
C7351	B	C	2D
C7352	B	C	2D
C7353	B	C	2D
C7354	B	C	2C
C7355	B	C	2C
C7356	B	C	2C
C7360	A	C	1E
C7361	A	C	1E
C7362	A	C	1E
C7363	A	C	1D
C7364	A	C	2E
C7401	B	C	2A
C7402	B	C	2A
C7403	B	C	1C
C7404	B	C	1C
C7405	B	C	1C
C7406	B	C	1C
C7407	B	C	1B
C7408	B	C	2B
C7409	B	C	2B
C7410	B	C	2B
C7411	B	C	2B
C7412	B	C	2B
C7413	B	C	1B
C7414	B	C	1C
C7415	B	C	1C
C7416	B	C	1C
C7417	B	C	1B
C7418	B	C	1B
C7419	B	C	1B
C7420	B	C	1B
C7421	B	C	1B
C7422	B	C	1B
C7423	B	C	2B
C7424	B	C	2B
C7425	B	C	2B
C7426	B	C	2B
C7427	B	C	2B
C7428	B	C	2B
C7429	B	C	2B
C7430	B	C	2B
C7431	B	C	2B
C7432	B	C	2B
C7433	B	C	2B
C7435	B	C	1B
C7436	B	C	1B
CONNECTOR			
CN7201	B	C	2E
CN7202	B	C	1B
CN7203	B	C	2E
CN7204	B	C	1D
DIODE			
D7201	A	C	2E
D7351	A	C	1E
D7401	B	C	1C
IC			
IC7201	B	C	1D
IC7202	B	C	1D
IC7203	B	C	1D
IC7204	A	C	2C
IC7301	B	C	2C
IC7302	B	C	1C
IC7401	B	C	1B
IC7402	B	C	1C
IC7403	B	C	1C
IC7404	B	C	1C
COIL			
L7201	B	C	1D
L7202	A	C	1D
L7203	B	C	1D
L7204	A	C	1D
L7205	A	C	1D
L7206	A	C	1D
L7207	A	C	1D
L7208	A	C	2E
L7301	B	C	1D
L7351	A	C	1E
L7352	A	C	1E
L7401	B	C	1B
TRANSISTOR			
Q7201	A	C	1D
Q7202	A	C	1D
Q7203	A	C	1D
Q7204	A	C	1D
Q7205	A	C	2E
Q7206	A	C	2E
Q7207	A	C	2E
Q7208	A	C	1D
Q7209	A	C	1D
Q7210	A	C	1D
Q7211	A	C	1D
Q7301	B	C	2C
Q7351	B	C	2B
Q7352	B	C	2C
Q7353	B	C	2C
Q7354	B	C	2C
Q7355	B	C	2C
Q7356	B	C	2C
Q7357	B	C	2C
Q7358	B	C	2C
Q7359	B	C	1D
Q7401	B	C	2A
Q7402	B	C	2B
RESISTOR			
R7201	B	C	1D
R7202	B	C	1D
R7203	B	C	1D
R7204	A	C	2E
R7251	A	C	2A
R7252	A	C	2A
R7253	A	C	2A
R7254	A	C	2A
R7255	A	C	2A
R7256	B	C	1D
R7257	B	C	1D
R7258	B	C	1D
R7259	B	C	1D
R7260	A	C	1D
R7261	A	C	1D
R7262	A	C	1D
R7263	A	C	1D
R7264	A	C	2E
R7265	A	C	2E
R7266	A	C	2E
R7267	A	C	1D
R7268	A	C	1D
R7269	A	C	1D
R7270	A	C	1D
R7271	A	C	2C
R7272	A	C	2C
R7273	A	C	2C
R7274	A	C	2C
R7275	A	C	2C
R7301	A	C	2C
R7302	B	C	2C
R7303	B	C	2D
R7304	B	C	2D
R7305	B	C	1C
R7306	B	C	1C
R7307	B	C	1C
R7308	B	C	1C
R7309	B	C	1C
R7310	B	C	2C
R7311	A	C	1C
R7312	A	C	1C
R7313	B	C	2C
R7315	B	C	1C
R7316	A	C	2D
R7317	A	C	2D
R7318	A	C	2D
R7319	A	C	2D
R7320	A	C	2D
R7321	A	C	2D
R7322	B	C	2D
R7323	B	C	2D
R7324	B	C	2D
R7351	A	C	2D
R7352	A	C	2D
R7353	A	C	2D
R7354	A	C	2D
R7355	A	C	2D
R7356	A	C	2D
R7360	B	C	2C
R7361	B	C	2B
R7362	B	C	2B
R7363	B	C	2C
R7364	B	C	2C
R7367	B	C	2C
R7368	B	C	2C
R7369	B	C	2C
R7370	B	C	2C
R7371	B	C	2C
R7372	B	C	2C
R7373	B	C	2C
R7374	B	C	2D
R7375	A	C	1E
R7376	A	C	2E
R7377	A	C	2D
R7378	A	C	2D
R7379	A	C	2E
R7380	B	C	2D
R7381	A	C	2C
R7382	A	C	2C
R7401	B	C	2A
R7402	B	C	2A
R7403	B	C	2A
R7404	B	C	2A
R7405	A	C	1B
R7406	B	C	1C
R7410	B	C	2B
R7411	B	C	2B
R7412	B	C	2B
R7413	B	C	1C
R7414	B	C	2C
R7415	B	C	2C
R7416	B	C	1C
R7417	B	C	1B
R7418	B	C	1C
R7419	B	C	1C
R7420	B	C	1C
R7421	B	C	1C
R7422	B	C	1B
R7423	B	C	1B
R7425	B	C	2B
R7426	B	C	2B
R7427	B	C	2B
R7428	B	C	2B
R7429	B	C	2B
R7430	B	C	2B
R7431	A	C	1B
R7432	A	C	1B
R7433	B	C	1B
R7434	B	C	1B
R7435	B	C	1B
TEST POINT			
TP7301	A	C	1E
TP7302	A	C	2C
TP7303	A	C	2D
TP7304	A	C	2D
TP7305	A	C	2D
TP7306	A	C	2D
TP7401	A	C	1C
TP7402	A	C	1B
TP7403	A	C	1B
TP7404	A	C	1B
OTHER			
S7251	A	D	2A
S7252	A	C	2A
S7253	A	C	1A
S7254	A	C	2D
S7255	A	D	2E

COMPONENT SIDE (A)



4.33 MONITOR BL CIRCUIT BOARD

FOIL SIDE (B)

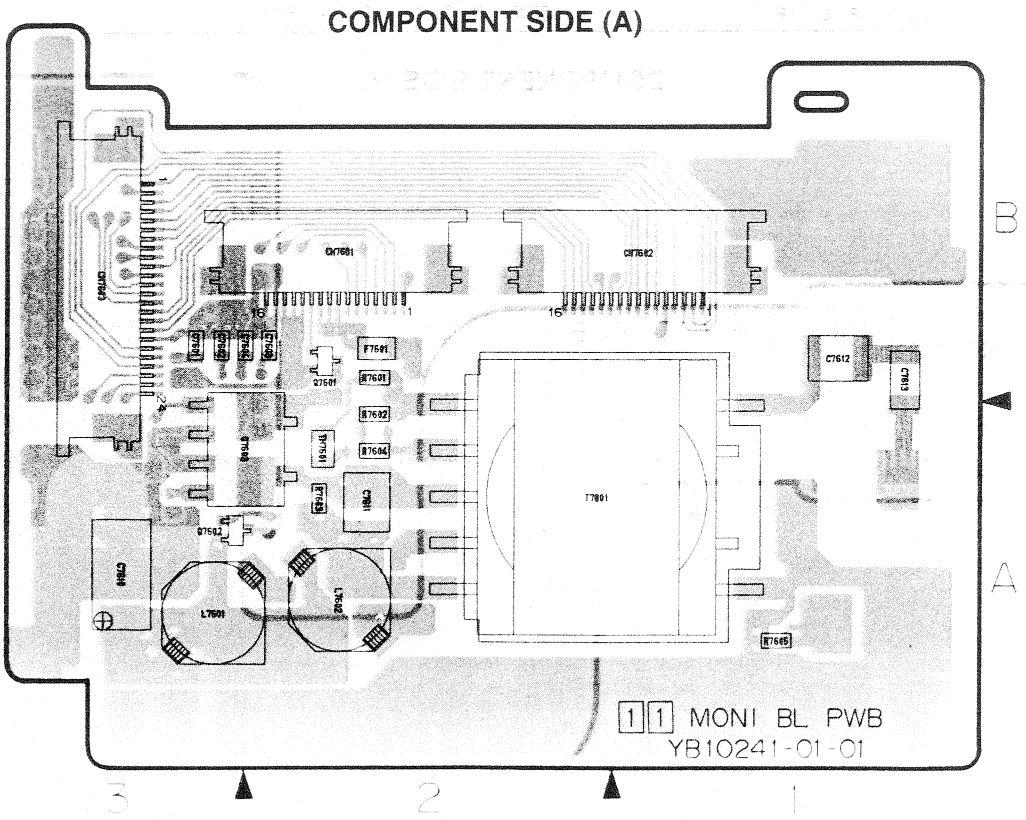


B
A
1
2
3
1 1 MONI BL PWB
YB10241-01-01

COMPONENT PARTS LOCATION GUIDE (MONITOR BL)

REF.No.	LOCATION			REF.No.	LOCATION			REF.No.	LOCATION			REF.No.	LOCATION			REF.No.	LOCATION		
CAPACITOR				C7612	A	C	1B	COIL				Q7603	A	C	3A	OTHER			
C7601	A	C	3B	C7613	A	C	1B	L7601	A	C	3A	RESISTOR				F7601	A	C	2B
C7602	A	C	3B	CONNECTOR				L7602	A	C	2A	R7601	A	C	2B	T7601	A	C	2A
C7603	A	C	2B	CN7601	A	C	2B	TRANSISTOR				R7602	A	C	2A	TH7601	A	C	2A
C7604	A	C	3B	CN7602	A	C	1B	Q7601	A	C	2B	R7603	A	C	2A				
C7610	A	C	3A	CN7603	A	C	3B	Q7602	A	C	3A	R7604	A	C	2A				
C7611	A	C	2A									R7605	A	C	1A				

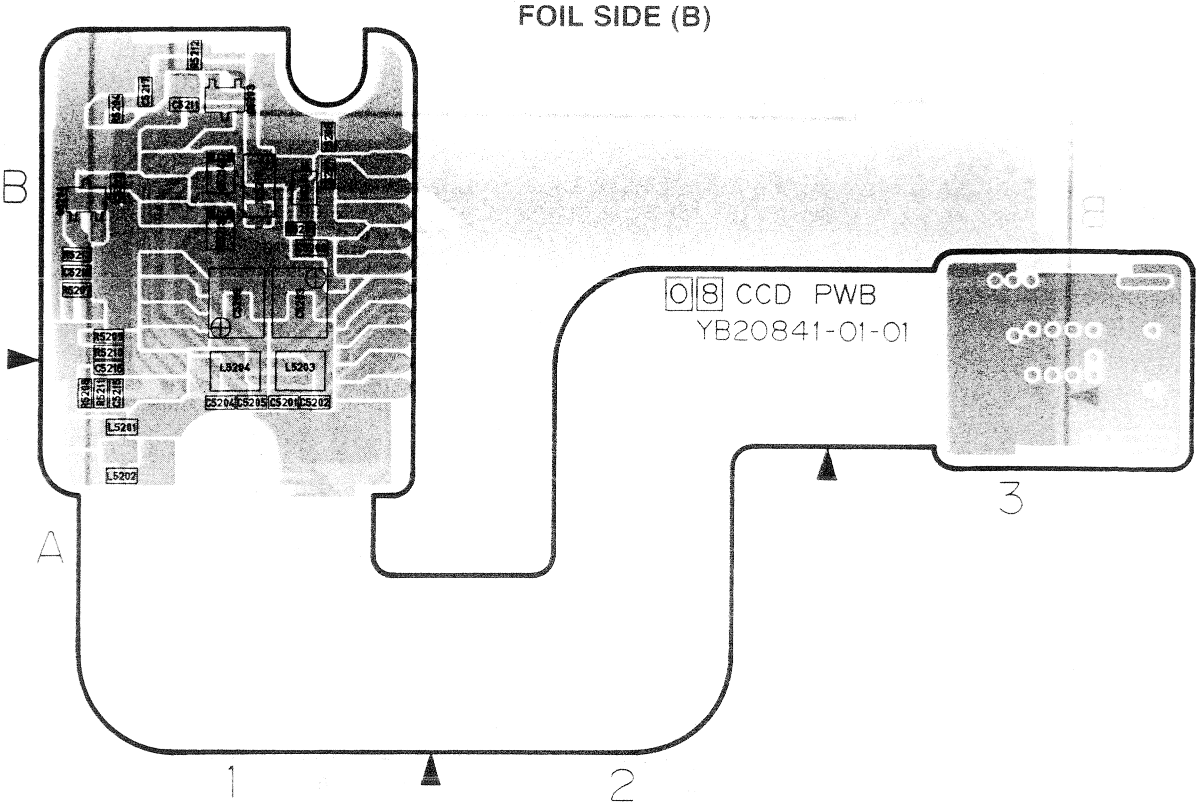
COMPONENT SIDE (A)



CN7601
CN7602
CN7603
1
16
24
F7601
Q7601
R7601
R7602
R7604
R7603
Q7603
TH7601
C7611
Q7602
C7610
L7601
L7602
T7601
C7612
C7613
R7605
B
A
1
2
3
1 1 MONI BL PWB
YB10241-01-01

4.32 CCD CIRCUIT BOARD

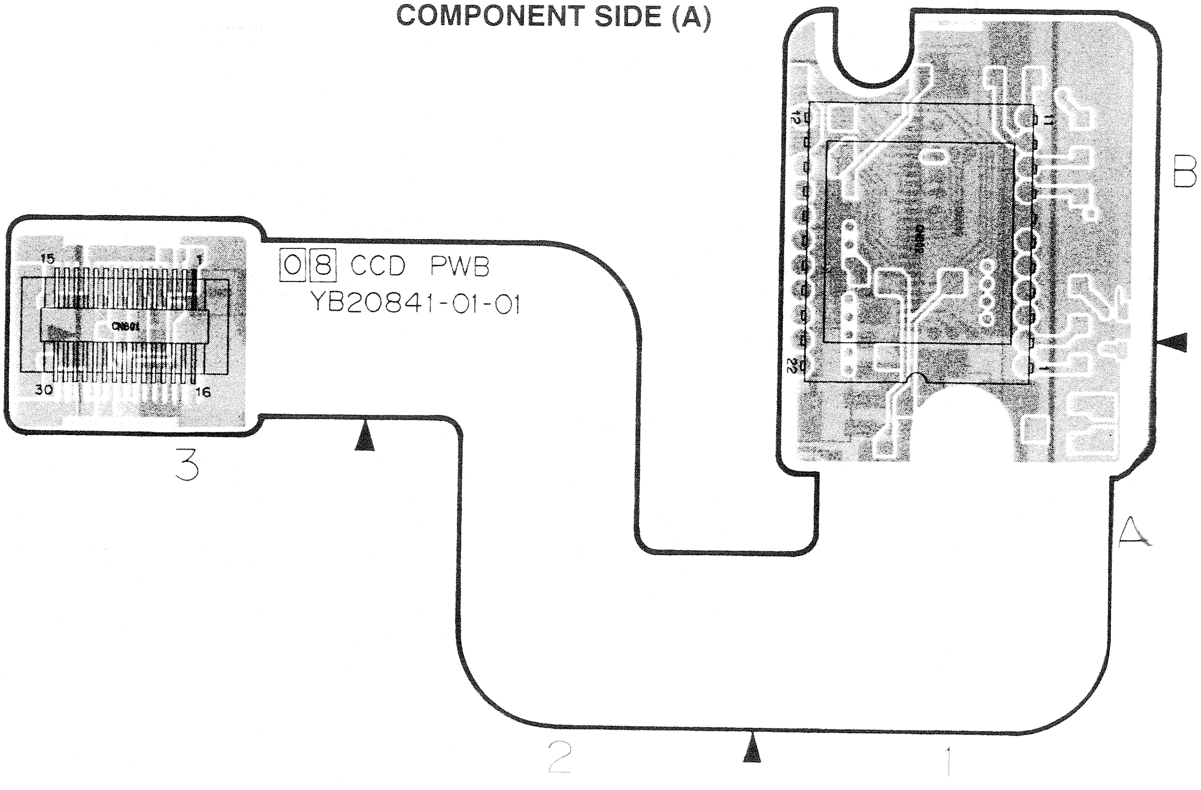
FOIL SIDE (B)


B
A
08 CCD PWB
YB20841-01-01
R5212
C5211
R5209
R5208
C5210
R5210
C5216
L5204
L5203
C5204
C5205
C5208
C5202
L5201
L5202
1
2
3

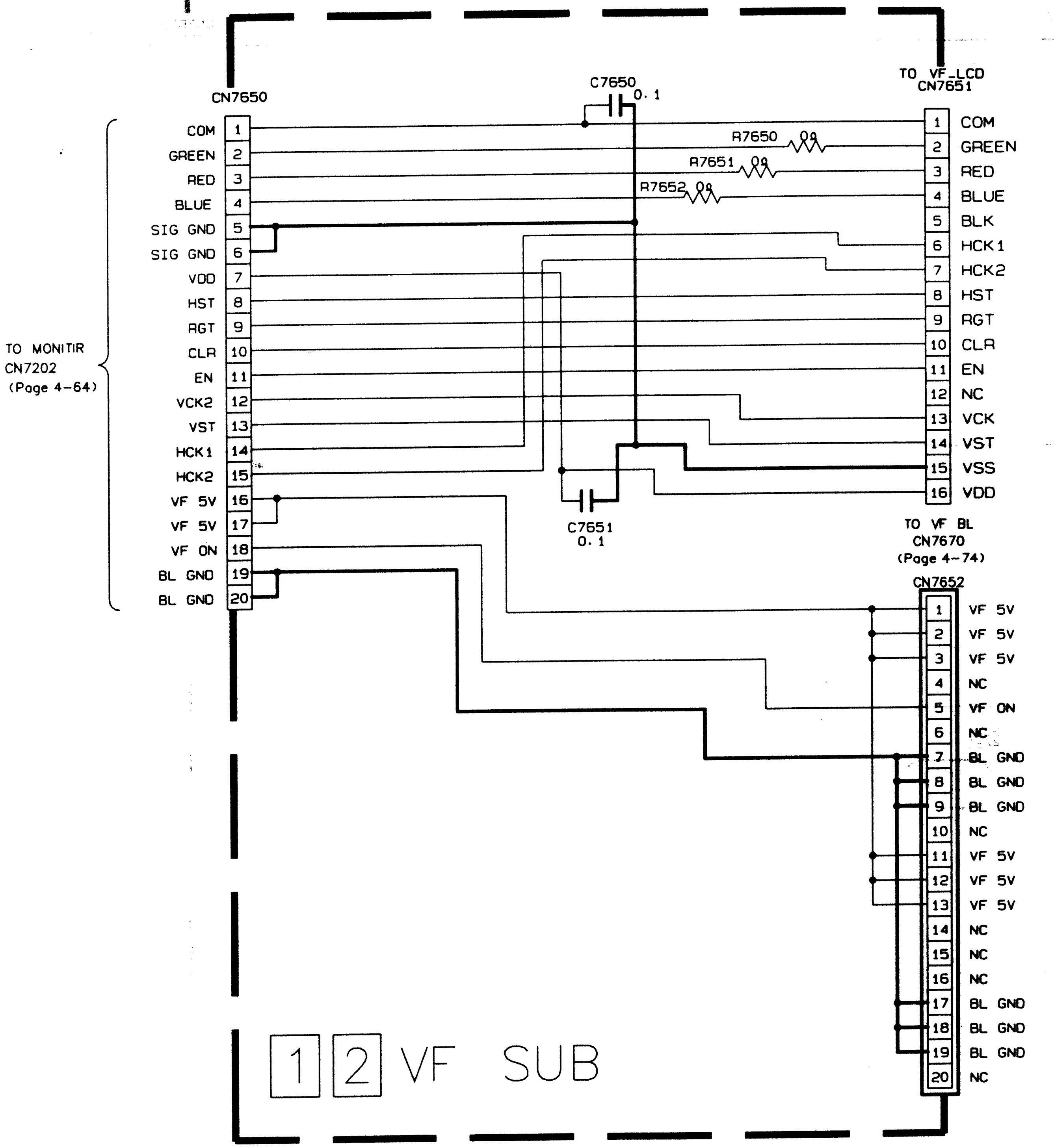
COMPONENT PARTS LOCATION GUIDE (CCD)

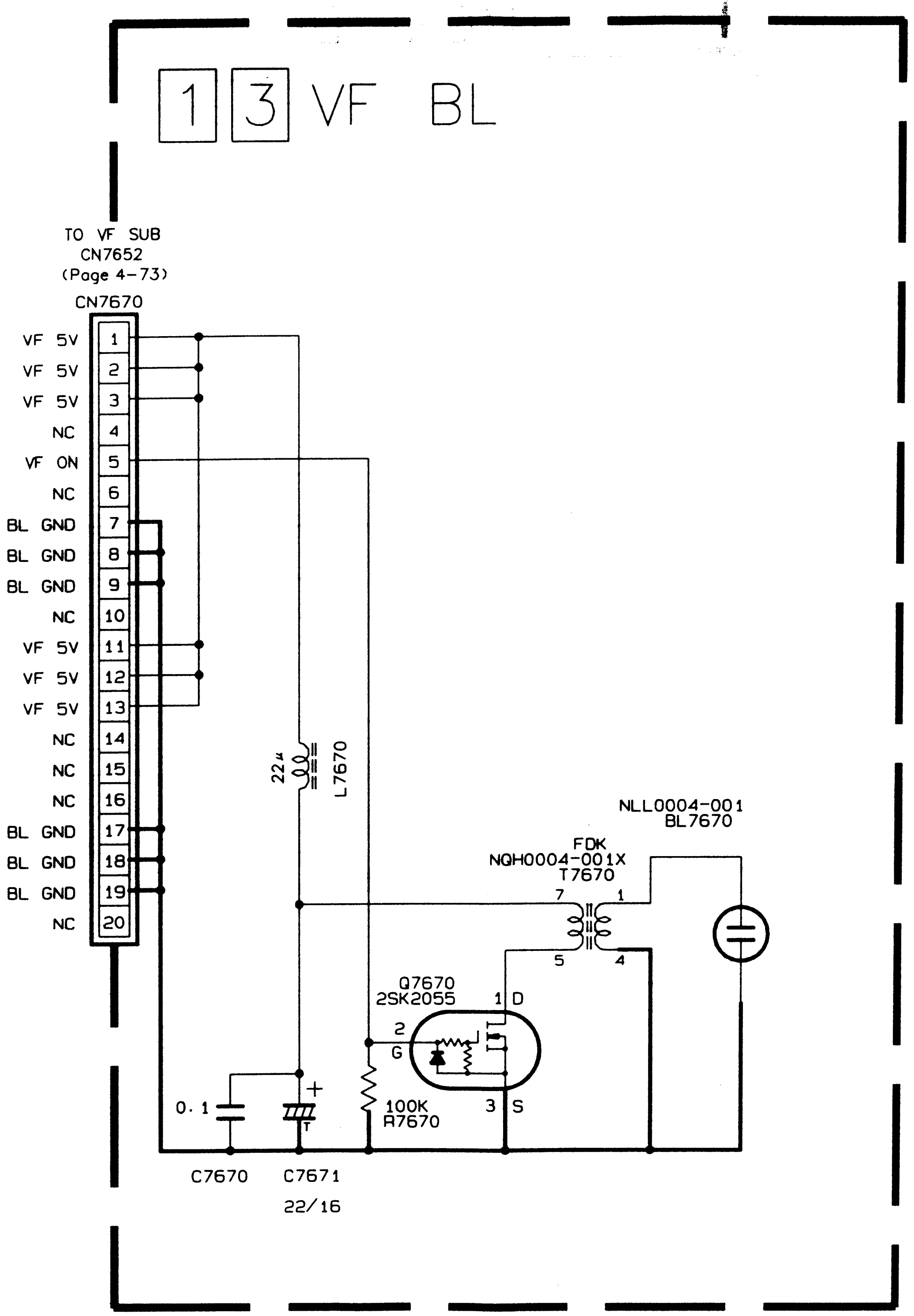
REF.No.	LOCATION		
CAPACITOR			
C5201	B	C	1A
C5202	B	C	1A
C5203	B	C	1B
C5204	B	C	1A
C5205	B	C	1A
C5206	B	C	1B
C5207	B	C	1B
C5208	B	C	1B
C5209	B	C	1B
C5210	B	C	1B
C5211	B	C	1B
C5212	B	C	1B
C5213	B	C	1B
C5214	B	C	1B
C5215	B	C	1A
C5216	B	C	1A
C5217	B	C	1B
C5218	B	C	1B
CONNECTOR			
CN801	A	C	3B
CN802	A	D	1B
DIODE			
D5201	B	C	1B
COIL			
L5201	B	C	1A
L5202	B	C	1A
L5203	B	C	1A
L5204	B	C	1A
TRANSISTOR			
Q5203	B	C	1B
Q5204	B	C	1B
RESISTOR			
R5201	B	C	1B
R5204	B	C	1B
R5207	B	C	1B
R5208	B	C	1A
R5209	B	C	1B
R5210	B	C	1B
R5211	B	C	1A
R5212	B	C	1B
R5213	B	C	1B

COMPONENT SIDE (A)


B
A
08 CCD PWB
YB20841-01-01
15
1
CN801
30
16
12
11
22
1
3
2
1

4.35 VF SUB AND VF BL SCHEMATIC DIAGRAMS

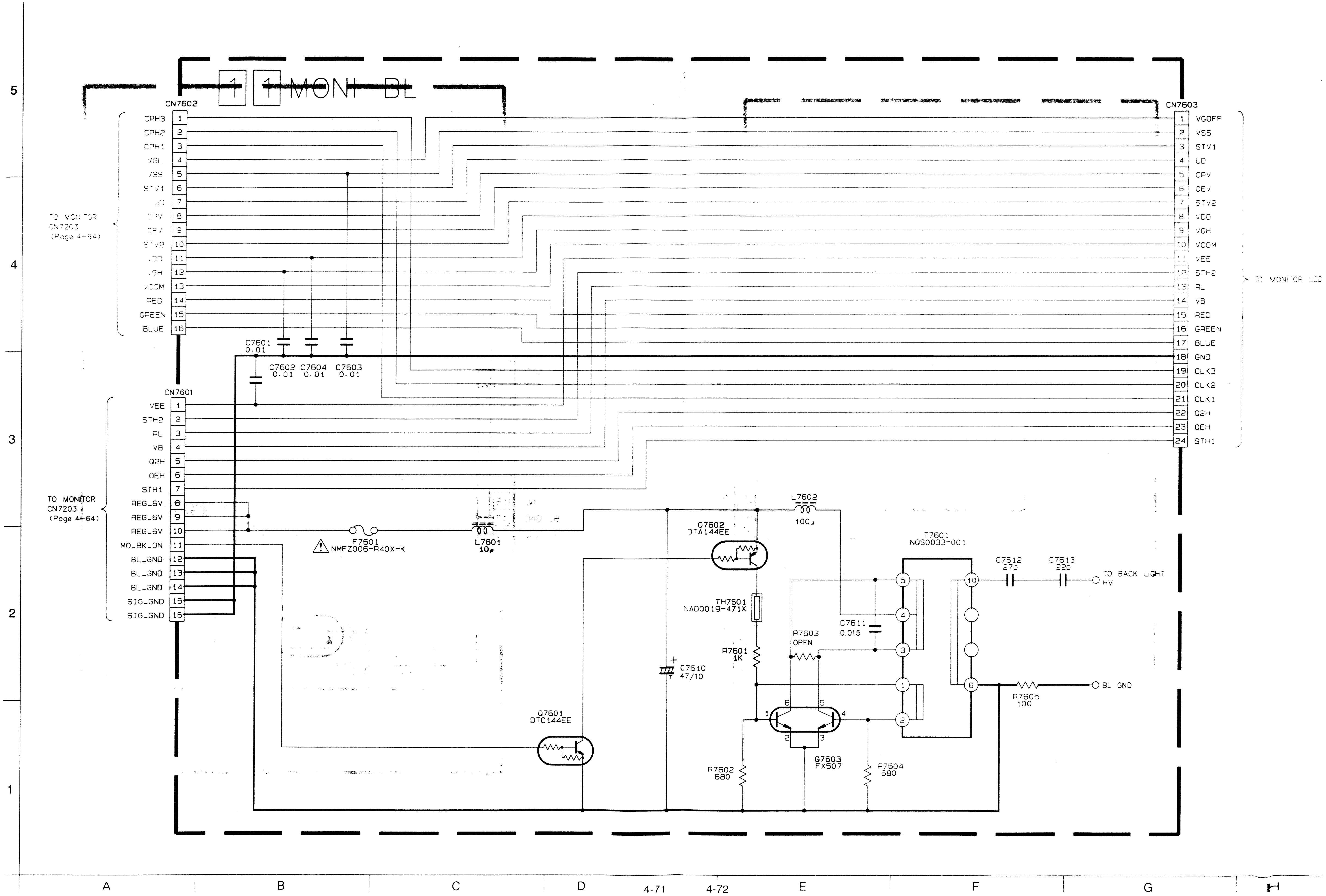

12 VF SUB
TO MONITIR CN7202 (Page 4-64)
CN7650
COM 1
GREEN 2
RED 3
BLUE 4
SIG GND 5
SIG GND 6
VDD 7
HST 8
RGT 9
CLR 10
EN 11
VCK2 12
VST 13
HCK1 14
HCK2 15
VF 5V 16
VF 5V 17
VF ON 18
BL GND 19
BL GND 20
C7650 0.1
C7651 0.1
R7650 0Ω
R7651 0Ω
R7652 0Ω
TO VF_LCD CN7651
1 COM
2 GREEN
3 RED
4 BLUE
5 BLK
6 HCK1
7 HCK2
8 HST
9 RGT
10 CLR
11 EN
12 NC
13 VCK
14 VST
15 VSS
16 VDD
TO VF BL CN7670 (Page 4-74)
CN7652
1 VF 5V
2 VF 5V
3 VF 5V
4 NC
5 VF ON
6 NC
7 BL GND
8 BL GND
9 BL GND
10 NC
11 VF 5V
12 VF 5V
13 VF 5V
14 NC
15 NC
16 NC
17 BL GND
18 BL GND
19 BL GND
20 NC


13 VF BL
TO VF SUB CN7652 (Page 4-73)
CN7670
VF 5V 1
VF 5V 2
VF 5V 3
NC 4
VF ON 5
NC 6
BL GND 7
BL GND 8
BL GND 9
NC 10
VF 5V 11
VF 5V 12
VF 5V 13
NC 14
NC 15
NC 16
BL GND 17
BL GND 18
BL GND 19
NC 20
22μ
L7670
NLL0004-001
BL7670
FDK
NQH0004-001X
T7670
7
1
5
4
Q7670
2SK2055
1 D
2 G
3 S
100K
R7670
0.1
C7670
C7671
22/16

5
4
3
2
1

A B C D E F G H

4.34 MONITOR BL SCHEMATIC DIAGRAM

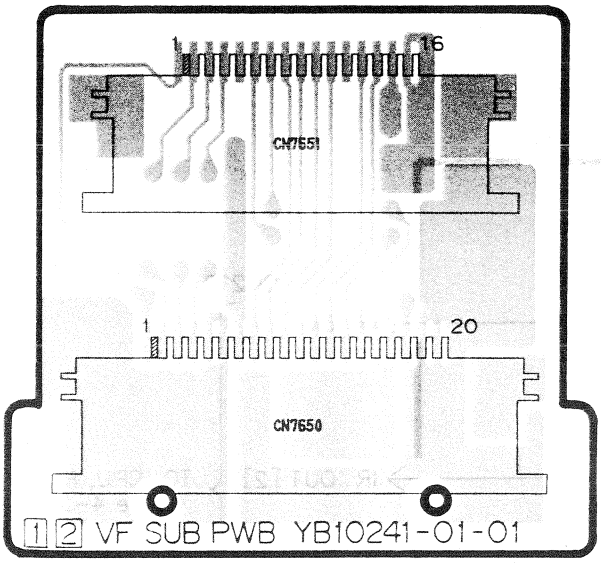


1 1 MONI BL
CN7602
CPH3 1
CPH2 2
CPH1 3
VGL 4
VSS 5
STV1 6
UD 7
CPV 8
OEV 9
STV2 10
VDD 11
VGH 12
VCOM 13
RED 14
GREEN 15
BLUE 16
TO MONITOR CN7203 (Page 4-64)
C7601 0.01
C7602 0.01
C7604 0.01
C7603 0.01
CN7601
VEE 1
STH2 2
RL 3
VB 4
Q2H 5
OEH 6
STH1 7
REG_6V 8
REG_6V 9
REG_6V 10
MO_BK_ON 11
BL_GND 12
BL_GND 13
BL_GND 14
SIG_GND 15
SIG_GND 16
TO MONITOR CN7203 (Page 4-64)
F7601 NMFZ006-R40X-K
L7601 10μ
L7602 100μ
Q7602 DTA144EE
TH7601 NAD0019-471X
R7601 1K
C7610 47/10
R7603 OPEN
C7611 0.015
T7601 NQS0033-001
C7612 27p
C7613 22p
TO BACK LIGHT HV
BL GND
R7605 100
Q7601 DTC144EE
R7602 680
Q7603 FX507
R7604 680
CN7603
1 VGOFF
2 VSS
3 STV1
4 UD
5 CPV
6 OEV
7 STV2
8 VDD
9 VGH
10 VCOM
11 VEE
12 STH2
13 RL
14 VB
15 RED
16 GREEN
17 BLUE
18 GND
19 CLK3
20 CLK2
21 CLK1
22 Q2H
23 OEH
24 STH1
TO MONITOR LCD
5
4
3
2
1
A
B
C
D
E
F
G
H

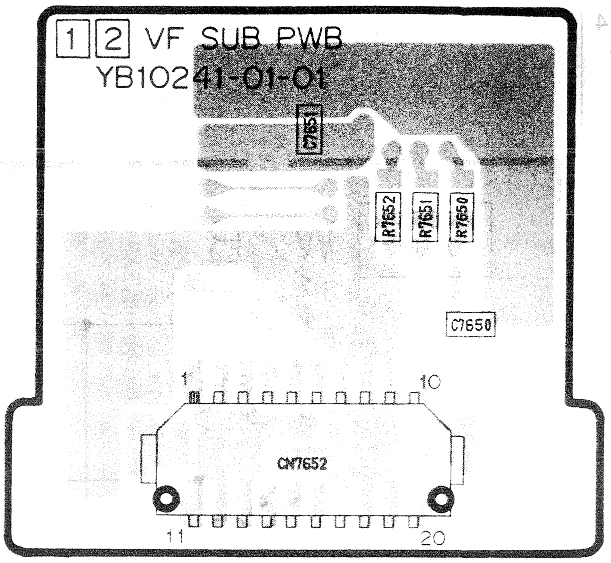
4.36 VF SUB AND VF BL CIRCUIT BOARDS

-VF SUB-

FOIL SIDE (B)

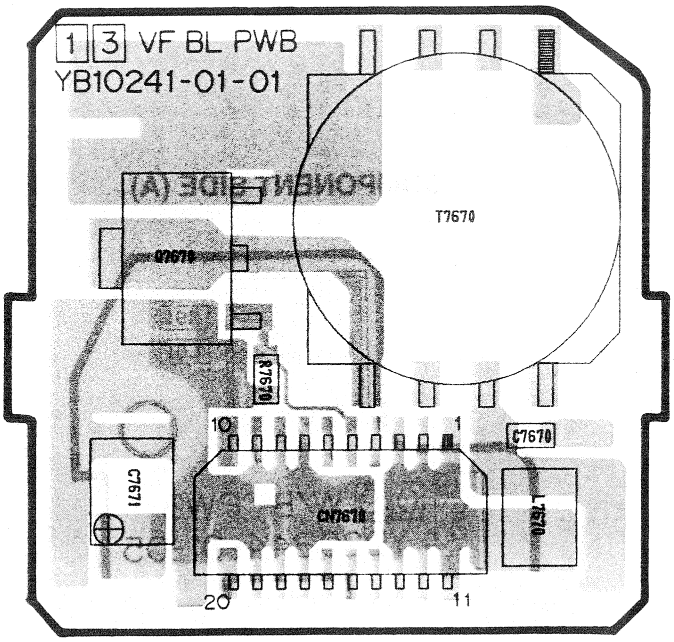

1
16
CN7651
1
20
CN7650
1 2 VF SUB PWB YB10241-01-01

COMPONENT SIDE (A)

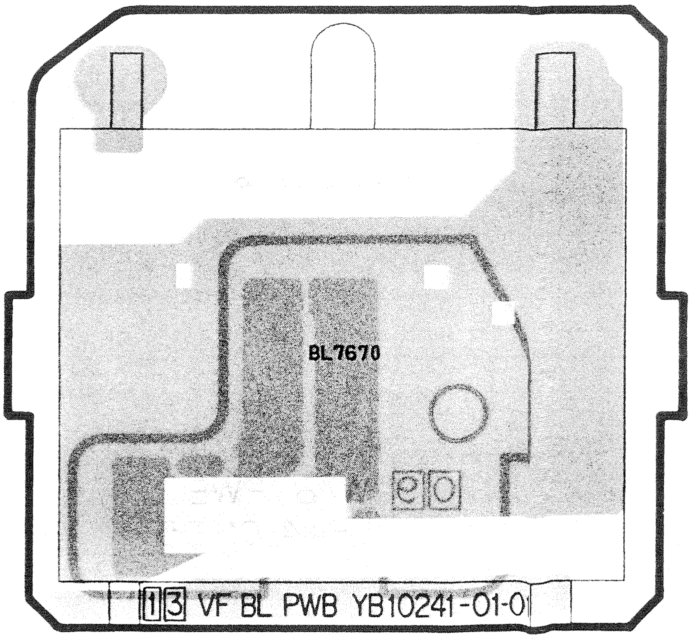

1 2 VF SUB PWB
YB10241-01-01
C7651
R7652
R7651
R7650
C7650
1
10
CN7652
11
20

-VF BL-

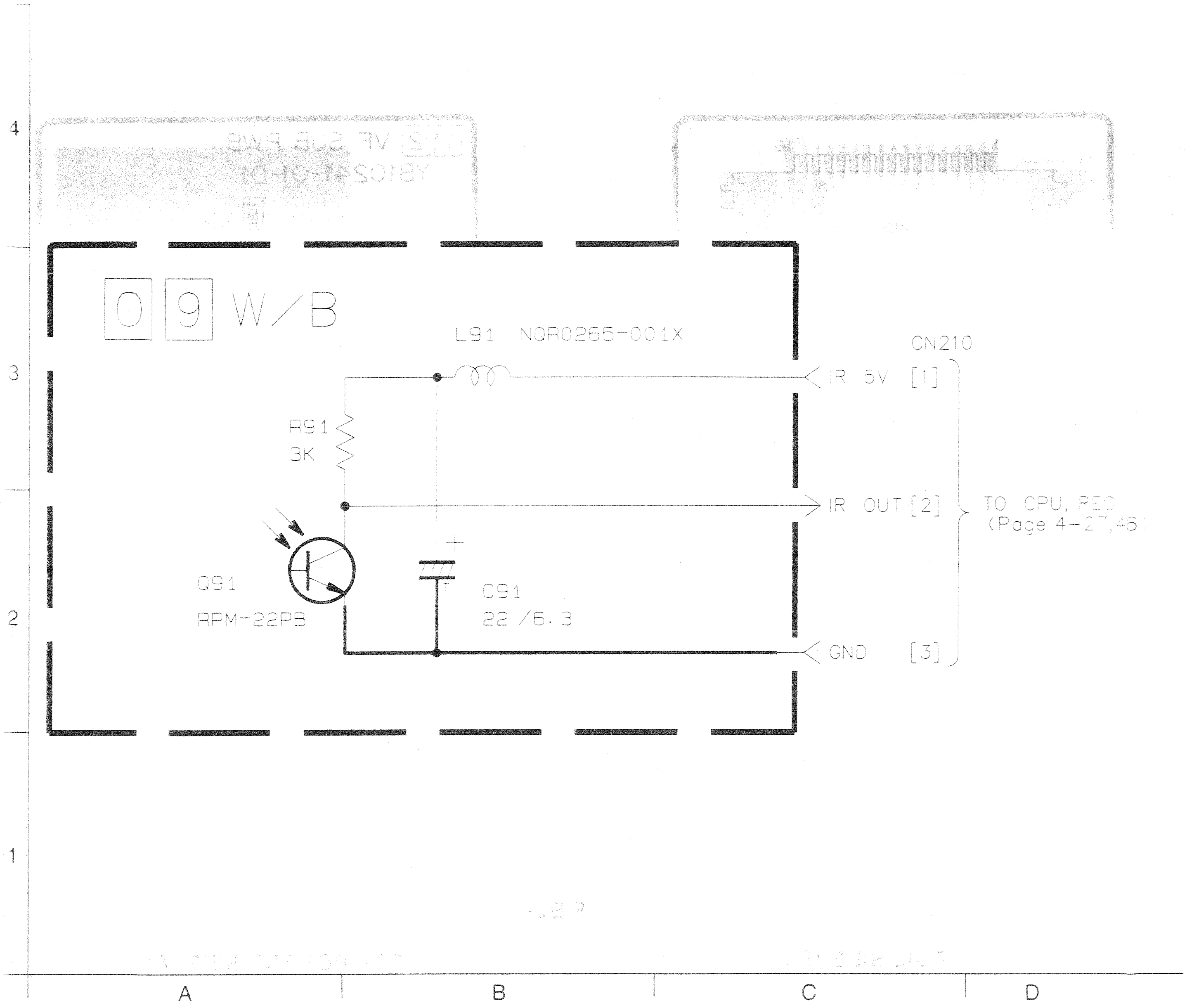
FOIL SIDE (B)


1 3 VF BL PWB
YB10241-01-01
T7670
Q7670
R7670
10
1
C7670
C7671
CN7670
L7670
20
11

COMPONENT SIDE (A)

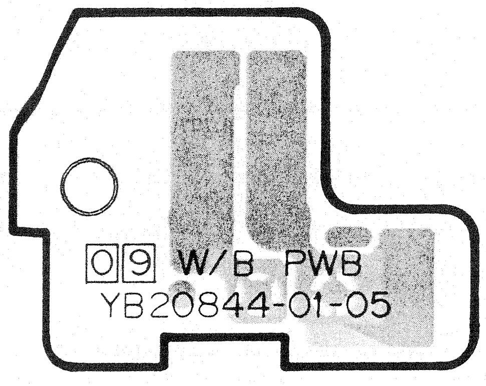

BL7670
1 3 VF BL PWB YB10241-01-0

4.37 W/B SCHEMATIC DIAGRAM AND W/B CIRCUIT BOARD



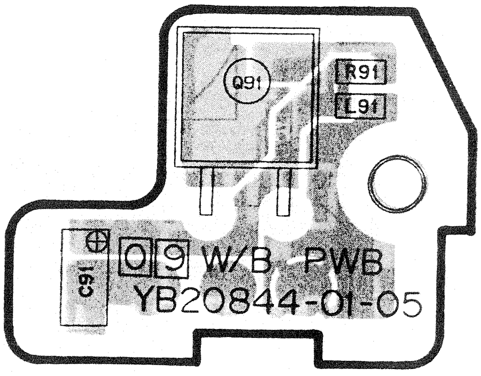
4
3
2
1
A
B
C
D
09 W/B
L91 NQR0265-001X
CN210
IR 5V [1]
R91
3K
IR OUT [2]
TO CPU, PEG
(Page 4-27,46)
Q91
RPM-22PB
C91
22 /6.3
GND [3]

FOIL SIDE (B)



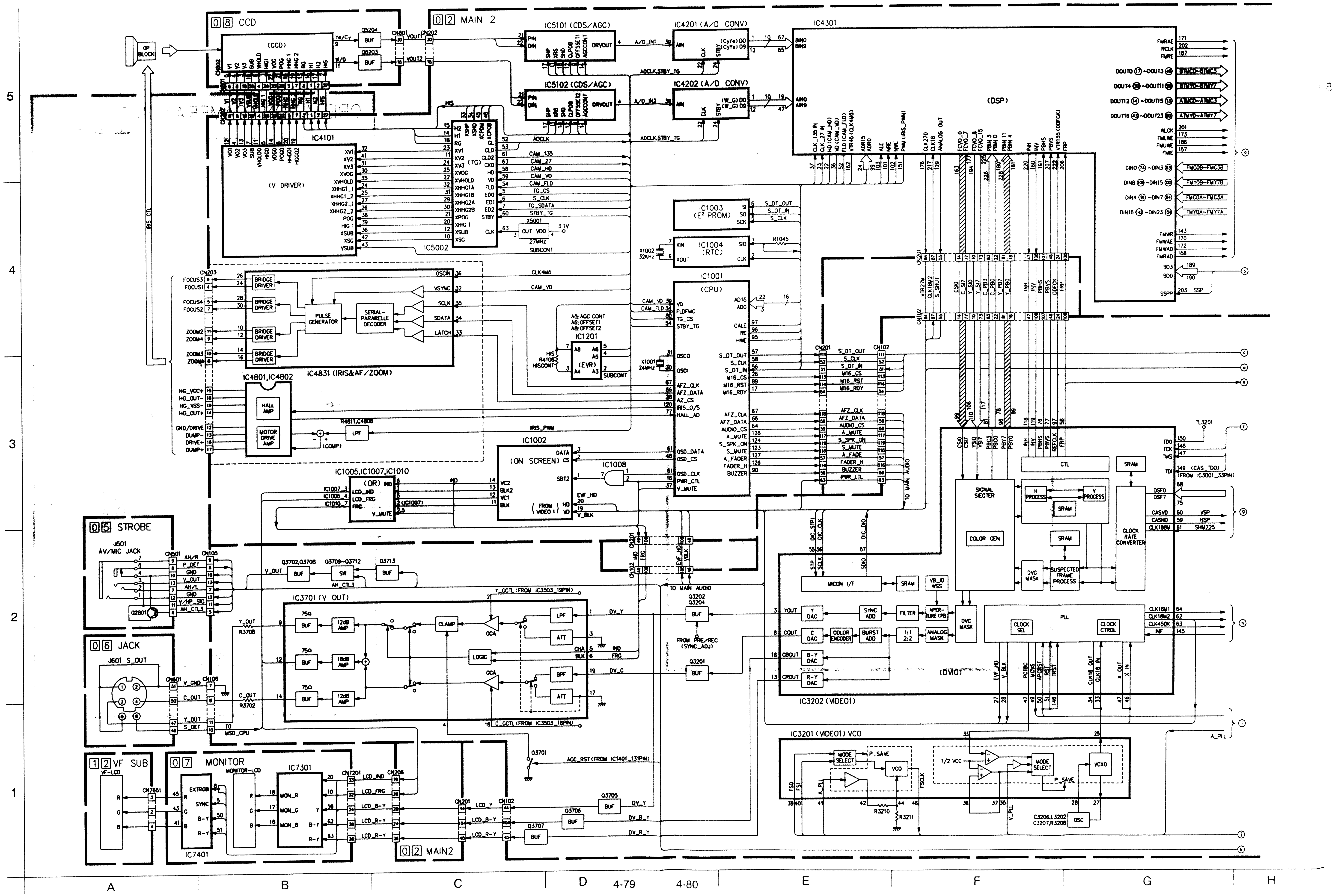
09 W/B PWB
YB20844-01-05

COMPONENT SIDE (A)

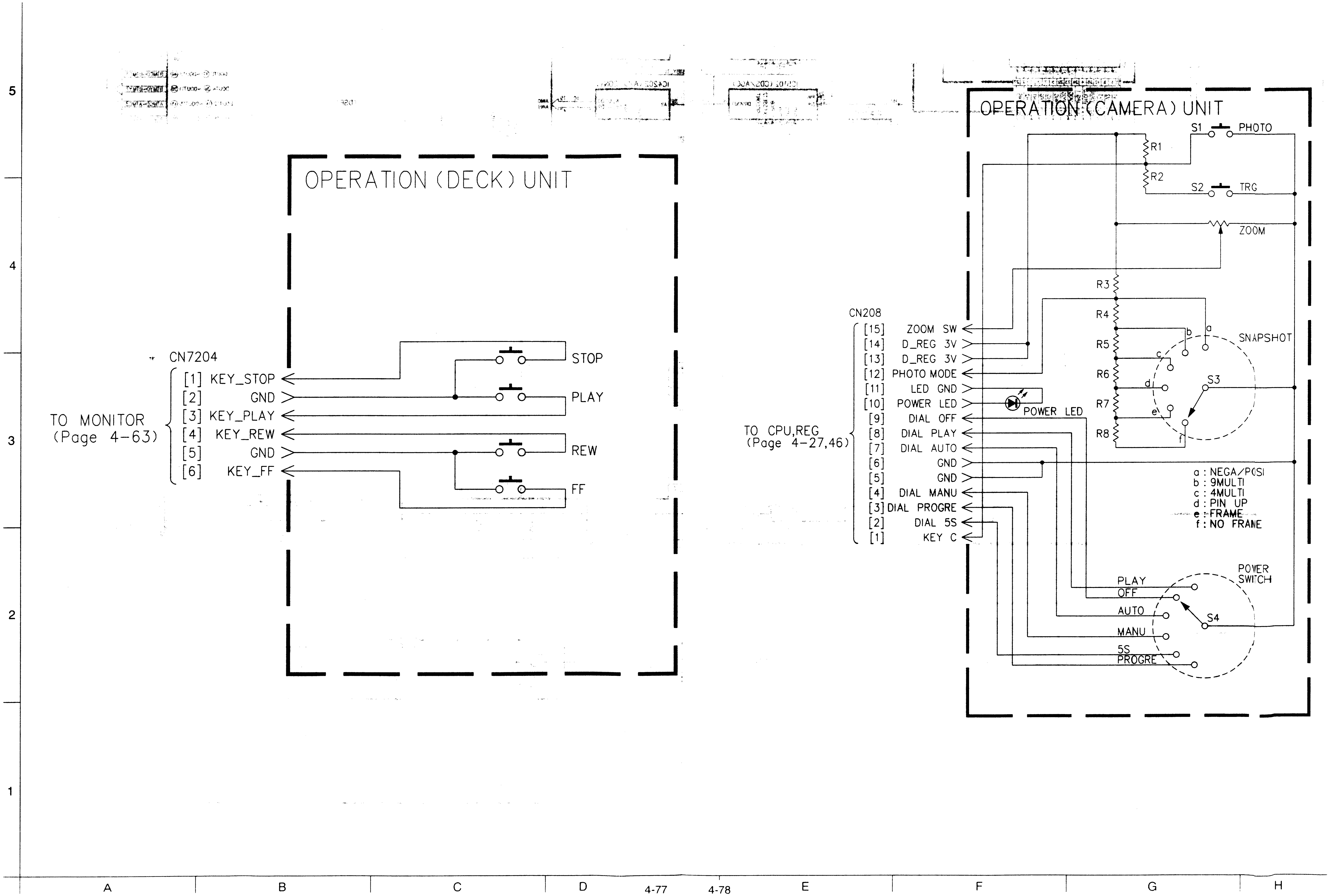


Q91
R91
L91
C91
09 W/B PWB
YB20844-01-05

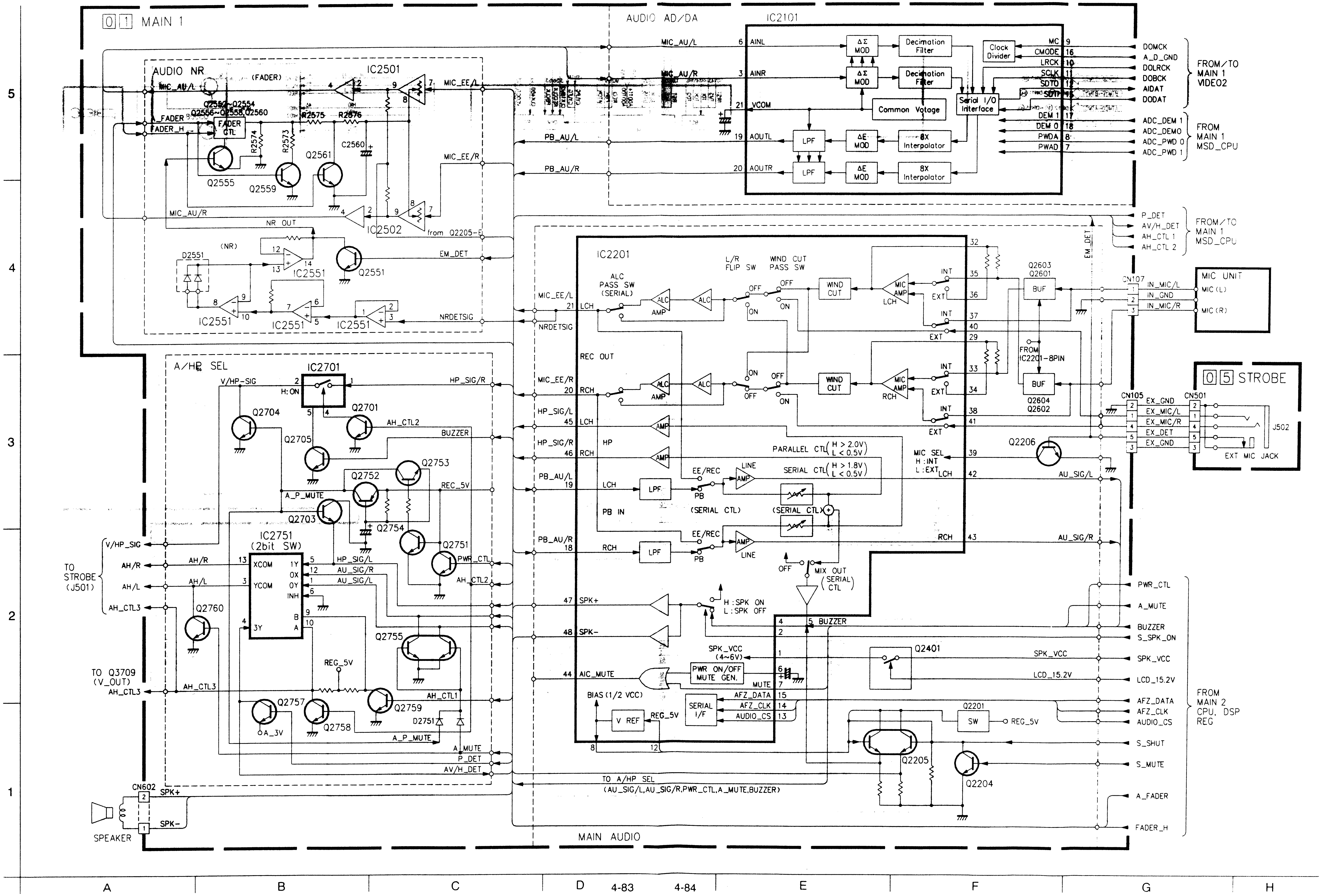
4.39 VIDEO SYSTEM BLOCK DIAGRAM


08 CCD
02 MAIN 2
OP BLOCK
(CCD)
IC4101
(V DRIVER)
IC5002
(TG)
IC5101 (CDS/AGC)
IC5102 (CDS/AGC)
IC4201 (A/D CONV)
IC4202 (A/D CONV)
IC4301
(DSP)
IC1003 (E² PROM)
IC1004 (RTC)
IC1001 (CPU)
IC1201 (EVR)
IC4831 (IRIS&AF/ZOOM)
BRIDGE DRIVER
PULSE GENERATOR
SERIAL-PARARELLE DECODER
IC4801,IC4802
HALL AMP
MOTOR DRIVE AMP
LPF
IC1002 (ON SCREEN)
IC1008
IC1005,IC1007,IC1010 (OR)
05 STROBE
J501 AV/MIC JACK
06 JACK
J601 S_OUT
IC3701 (V OUT)
CLAMP
GCA
LOGIC
12dB AMP
18dB AMP
BUF
ATT
BPF
12 VF SUB
VF-LCD
07 MONITOR
MONITOR-LCD
IC7401
IC7301
02 MAIN2
IC3202 (VIDEO1)
(DVIO7)
SIGNAL SIECTER
COLOR GEN
H PROCESS
V PROCESS
SRAM
CLOCK RATE CONVERTER
DVC MASK
SUSPECTED FRAME PROCESS
MICON I/F
PLL
CLOCK SEL
CLOCK CTROL
Y DAC
C DAC
B-Y DAC
R-Y DAC
SYNC ADD
COLOR ENCODER
BURST ADD
FILTER
APERTURE (PB)
ANALOG MASK
IC3201 (VIDEO1) VCO
MODE SELECT
P_SAVE
VCO
VCXO
OSC
TO MAIN AUDIO
FROM PRE/REC (SYNC_ADJ)
A B C D E F G H
1 2 3 4 5

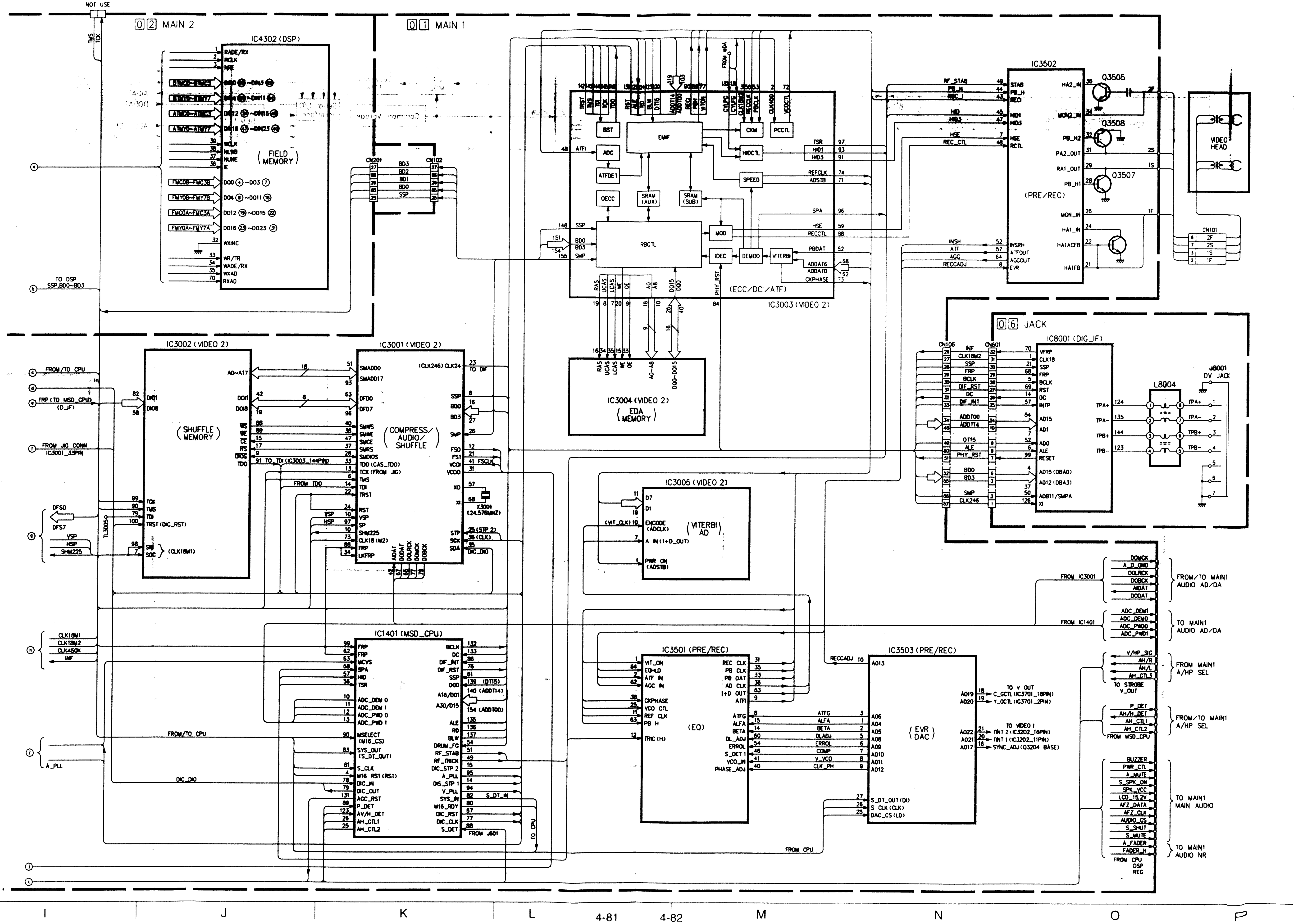
4.38 OPERATION (DECK) UNIT AND OPERATION (CAMERA) UNIT SCHEMATIC DIAGRAMS


OPERATION (DECK) UNIT
CN7204
TO MONITOR (Page 4-63)
[1] KEY_STOP
[2] GND
[3] KEY_PLAY
[4] KEY_REW
[5] GND
[6] KEY_FF
STOP
PLAY
REW
FF
OPERATION (CAMERA) UNIT
S1
PHOTO
R1
R2
S2
TRG
ZOOM
R3
R4
R5
R6
R7
R8
CN208
TO CPU,REG (Page 4-27,46)
[15] ZOOM SW
[14] D_REG 3V
[13] D_REG 3V
[12] PHOTO MODE
[11] LED GND
[10] POWER LED
[9] DIAL OFF
[8] DIAL PLAY
[7] DIAL AUTO
[6] GND
[5] GND
[4] DIAL MANU
[3] DIAL PROGRE
[2] DIAL 5S
[1] KEY C
POWER LED
SNAPSHOT
S3
a
b
c
d
e
f
a : NEGA/POSI
b : 9MULTI
c : 4MULTI
d : PIN UP
e : FRAME
f : NO FRAME
POWER SWITCH
S4
PLAY
OFF
AUTO
MANU
5S
PROGRE
5
4
3
2
1
A
B
C
D
E
F
G
H

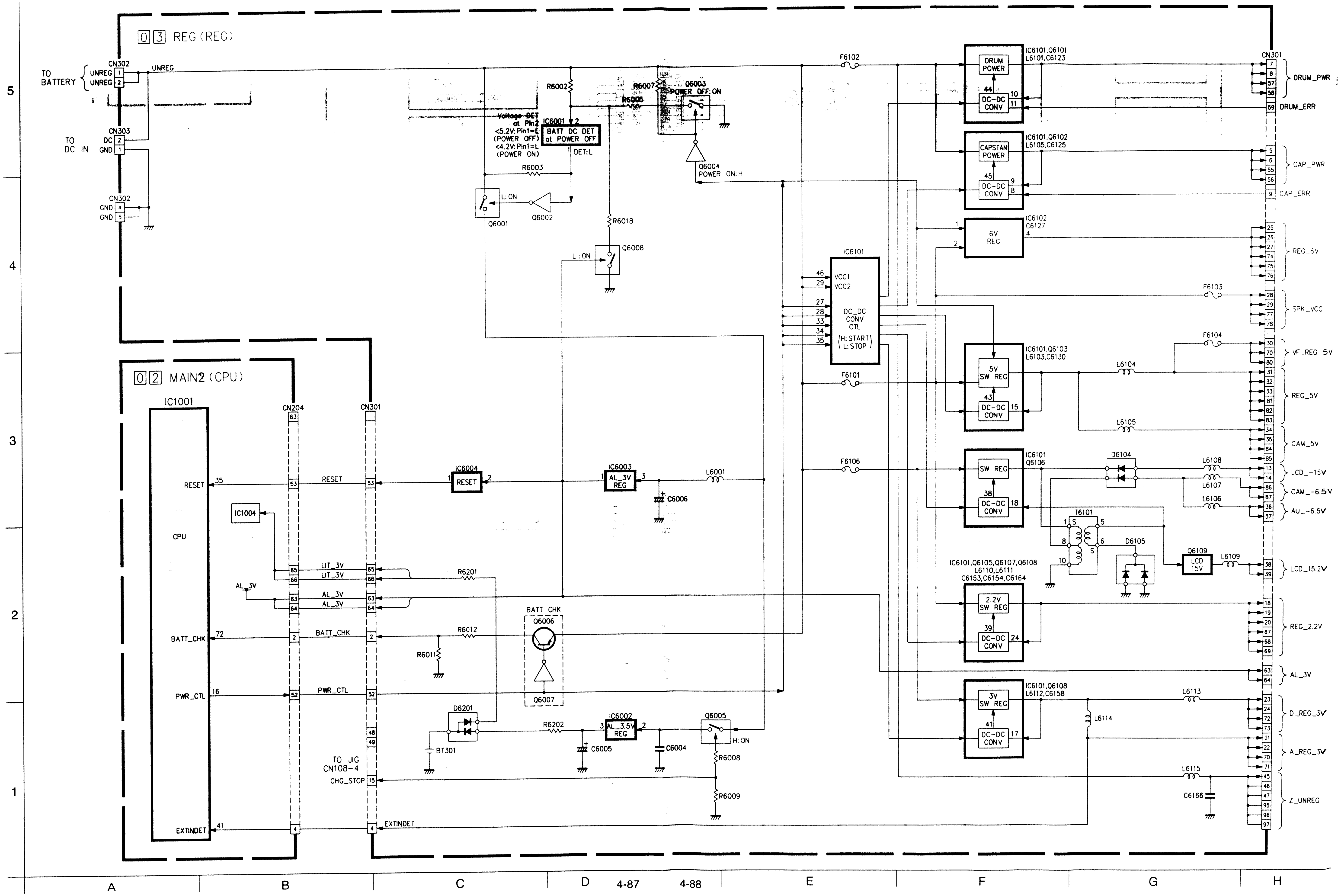
4.40 AUDIO BLOCK DIAGRAM



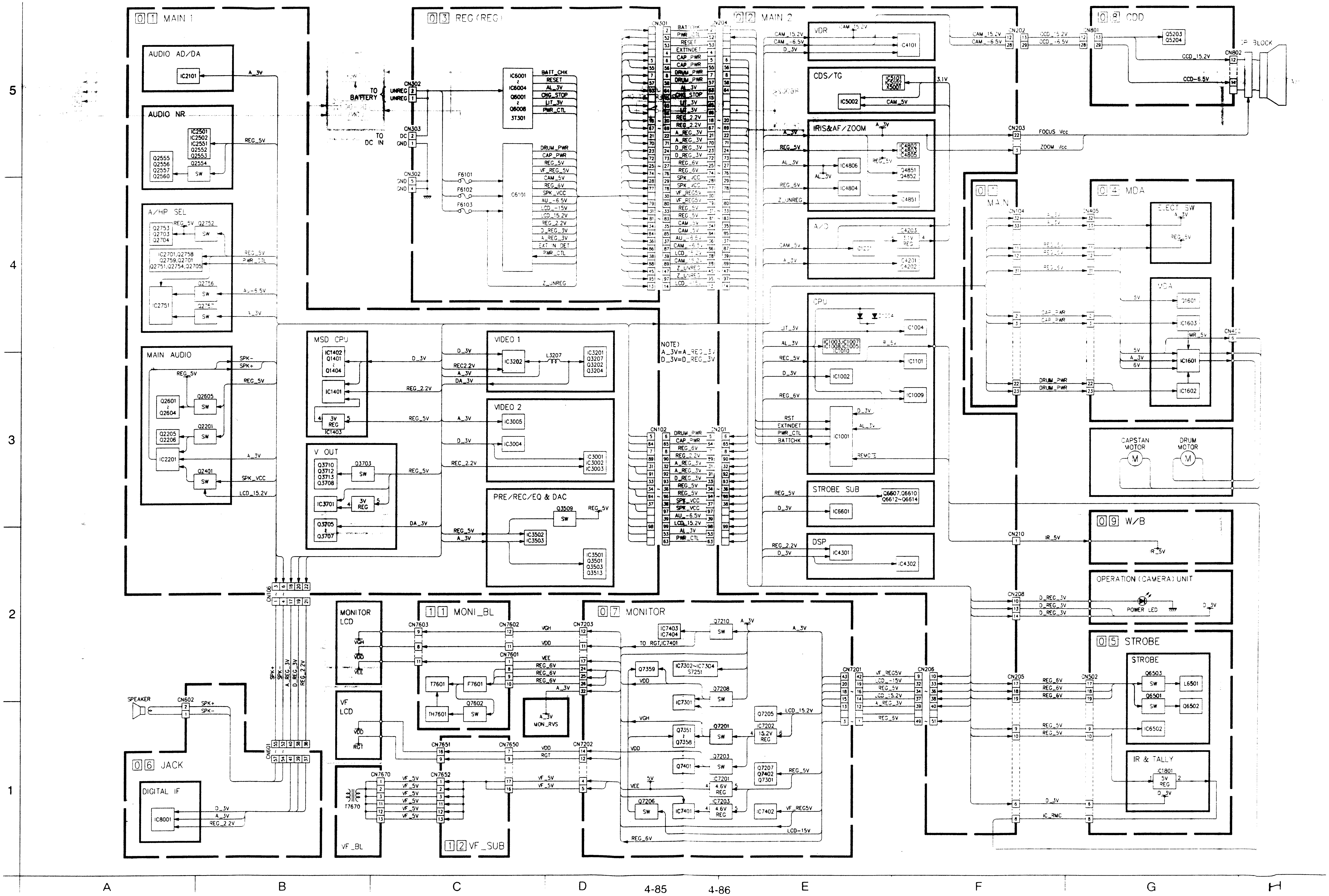
01 MAIN 1
AUDIO AD/DA
IC2101
AUDIO NR
IC2501
(FADER)
MIC_AU/L
MIC_AU/R
MIC_EE/L
MIC_EE/R
FADER
FADER_H
Q2552~Q2554
Q2556~Q2558,Q2560
FADER CTL
R2575
R2576
R2574
R2573
C2560
Q2555
Q2559
Q2561
IC2502
from Q2205-E
NR OUT
(NR)
D2551
IC2551
Q2551
EM_DET
NRDETSIG
PB_AU/L
PB_AU/R
AINL
AINR
VCOM
AOUTL
AOUTR
ΔΣ MOD
Decimation Filter
Common Voltage
Clock Divider
Serial I/O Interface
LPF
ΔE MOD
8X Interpolator
MC
CMODE
LRCK
SCLK
SDTO
SDTI
DEM 1
DEM 0
PWDA
PWAD
DOMCK
A_D_GND
DOLRCK
DOBCK
AIDAT
DODAT
FROM/TO MAIN 1 VIDEO2
ADC_DEM 1
ADC_DEMO
ADC_PWD 0
ADC_PWD 1
FROM MAIN 1 MSD_CPU
P_DET
AV/H_DET
AH_CTL 1
AH_CTL 2
FROM/TO MAIN 1 MSD_CPU
IC2201
ALC PASS SW (SERIAL)
L/R FLIP SW
WIND CUT PASS SW
ALC
AMP
WIND CUT
MIC AMP
INT
EXT
LCH
RCH
ON
OFF
REC OUT
HP
HP_SIG/L
HP_SIG/R
PB IN
EE/REC
PB
LINE
PARALLEL CTL (H > 2.0V, L < 0.5V)
SERIAL CTL (H > 1.8V, L < 0.5V)
(SERIAL CTL)
MIC SEL H:INT L:EXT
MIX OUT (SERIAL CTL)
SPK+
SPK-
H:SPK ON L:SPK OFF
BUZZER
SPK_VCC (4~6V)
PWR ON/OFF MUTE GEN.
MUTE
AIC_MUTE
BIAS (1/2 VCC)
V REF
REG_5V
SERIAL I/F
AFZ_DATA
AFZ_CLK
AUDIO_CS
Q2603
Q2601
Q2604
Q2602
BUF
FROM IC2201-8PIN
E_M_DET
CN107
IN_MIC/L
IN_GND
IN_MIC/R
MIC UNIT
MIC (L)
MIC (R)
05 STROBE
CN105
CN501
EX_GND
EX_MIC/L
EX_MIC/R
EX_DET
J502
EXT MIC JACK
Q2206
AU_SIG/L
AU_SIG/R
Q2401
LCD_15.2V
Q2201
SW
Q2205
Q2204
PWR_CTL
A_MUTE
S_SPK_ON
SPK_VCC
AFZ_DATA
AFZ_CLK
AUDIO_CS
S_SHUT
S_MUTE
FROM MAIN 2 CPU, DSP REG
A_FADER
FADER_H
TO A/HP SEL
(AU_SIG/L,AU_SIG/R,PWR_CTL,A_MUTE,BUZZER)
MAIN AUDIO
A/HP SEL
IC2701
V/HP-SIG
H:ON
HP_SIG/R
Q2704
Q2701
Q2705
AH_CTL2
Q2753
Q2752
REC_5V
A_P_MUTE
Q2703
Q2754
Q2751
IC2751 (2bit SW)
XCOM
YCOM
1Y
0X
1X
0Y
INH
B
A
3Y
HP_SIG/L
PWR_CTL
AH_CTL2
Q2760
Q2755
REG_5V
Q2757
Q2758
Q2759
AH_CTL1
D2751
A_3V
A_MUTE
P_DET
AV/H_DET
TO STROBE (J501)
V/HP_SIG
AH/R
AH/L
AH_CTL3
TO Q3709 (V_OUT)
CN602
SPEAKER
A
B
C
D
E
F
G
H
1
2
3
4
5


NOT USE
02 MAIN 2
01 MAIN 1
06 JACK
IC4302 (DSP)
(FIELD MEMORY)
TO DSP SSP,BD0~BD3
CN201
CN102
BD3
BD2
BD1
BD0
SSP
IC3003 (VIDEO 2)
(ECC/DCI/ATF)
BST
EMIF
CKM
PCCTL
ADC
ATFDET
HIDCTL
SPEED
OECC
SRAM (AUX)
SRAM (SUB)
RBCTL
MOD
IDEC
DEMOD
VITERBI
FROM MDA
IC3004 (VIDEO 2)
(EDA MEMORY)
IC3502
(PRE/REC)
Q3505
Q3508
Q3507
VIDEO HEAD
CN101
IC3002 (VIDEO 2)
(SHUFFLE MEMORY)
IC3001 (VIDEO 2)
(COMPRESS/ AUDIO/ SHUFFLE)
X3001 (24.576MHZ)
IC3005 (VIDEO 2)
(VITERBI AD)
IC8001 (DIG_IF)
CN106
CN601
L8004
J8001 DV JACK
FROM/TO CPU
FRP (TO MSD_CPU) (D_IF)
FROM JIG CONN IC3001_33PIN
DFS0
DFS7
VSP
HSP
SHM225
TL3005
CLK18M1
CLK18M2
CLK450K
INF
A_PLL
IC1401 (MSD_CPU)
IC3501 (PRE/REC)
(EQ)
IC3503 (PRE/REC)
(EVR DAC)
TO V OUT
C_GCTL (IC3701_18PIN)
Y_GCTL (IC3701_2PIN)
TO VIDEO 1
TINT 2 (IC3202_16PIN)
TINT 1 (IC3202_11PIN)
SYNC_ADJ (Q3204 BASE)
FROM IC3001
FROM/TO MAIN1 AUDIO AD/DA
FROM IC1401
TO MAIN1 AUDIO AD/DA
FROM MAIN1 A/HP SEL
TO STROBE V_OUT
FROM/TO MAIN1 A/HP SEL
FROM MSD_CPU
TO MAIN1 MAIN AUDIO
TO MAIN1 AUDIO NR
FROM CPU DSP REG
FROM CPU
TO CPU
FROM J601
DIC_DIO
I
J
K
L
M
N
O
P

4.42 REGULATOR SYSTEM BLOCK DIAGRAM


03 REG (REG)
02 MAIN2 (CPU)
TO BATTERY
CN302
UNREG 1
UNREG 2
UNREG
TO DC IN
CN303
DC 2
GND 1
CN302
GND 4
GND 5
R6002
R6007
Q6003
POWER OFF:ON
R6005
Voltage DET at Pin2
<5.2V: Pin1=L (POWER OFF)
<4.2V: Pin1=L (POWER ON)
IC6001
BATT DC DET at POWER OFF
DET:L
Q6004
POWER ON:H
R6003
L:ON
Q6001
Q6002
R6018
Q6008
L:ON
F6102
DRUM POWER
DC-DC CONV
IC6101,Q6101
L6101,C6123
CN301
DRUM_PWR
DRUM_ERR
CAPSTAN POWER
IC6101,Q6102
L6105,C6125
CAP_PWR
CAP_ERR
6V REG
IC6102
C6127
REG_6V
F6103
SPK_VCC
IC6101
VCC1
VCC2
DC_DC CONV CTL
(H: START / L: STOP)
F6104
VF_REG 5V
F6101
5V SW REG
IC6101,Q6103
L6103,C6130
L6104
REG_5V
L6105
CAM_5V
F6106
SW REG
IC6101
Q6106
D6104
L6108
LCD_-15V
L6107
CAM_-6.5V
L6106
AU_-6.5V
T6101
D6105
Q6109
LCD 15V
L6109
LCD_15.2V
IC6101,Q6105,Q6107,Q6108
L6110,L6111
C6153,C6154,C6164
2.2V SW REG
REG_2.2V
AL_3V
3V SW REG
IC6101,Q6108
L6112,C6158
L6113
L6114
D_REG_3V
A_REG_3V
L6115
C6166
Z_UNREG
IC1001
CPU
RESET
BATT_CHK
PWR_CTL
EXTINDET
IC1004
AL_3V
CN204
LIT_3V
BATT_CHK
PWR_CTL
TO JIG CN108-4
CHG_STOP
EXTINDET
IC6004
RESET
IC6003
AL_3V REG
L6001
C6006
R6201
R6012
R6011
BATT CHK
Q6006
Q6007
D6201
BT301
R6202
IC6002
AL_3.5V REG
C6005
C6004
Q6005
H:ON
R6008
R6009
A
B
C
D
E
F
G
H
1
2
3
4
5

4.41 POWER SYSTEM BLOCK DIAGRAM


01 MAIN 1
AUDIO AD/DA
IC2101
AUDIO NR
A/HP SEL
MAIN AUDIO
03 REG (REG)
TO BATTERY
TO DC IN
22 MAIN 2
VDR
CDS/TG
IRIS&AF/ZOOM
A/D
CPU
STROBE SUB
DSP
08 CDD
VF BLOCK
04 MDA
ELECT SW
09 W/B
OPERATION (CAMERA) UNIT
POWER LED
05 STROBE
IR & TALLY
MSD CPU
VIDEO 1
VIDEO 2
V OUT
PRE/REC/EQ & DAC
NOTE) A_3V=A_REG_3V D_3V=D_REG_3V
MONITOR LCD
11 MONI_BL
07 MONITOR
VF LCD
VF_BL
12 VF_SUB
06 JACK
DIGITAL IF
SPEAKER
CAPSTAN MOTOR
DRUM MOTOR
A
B
C
D
E
F
G
H
1
2
3
4
5

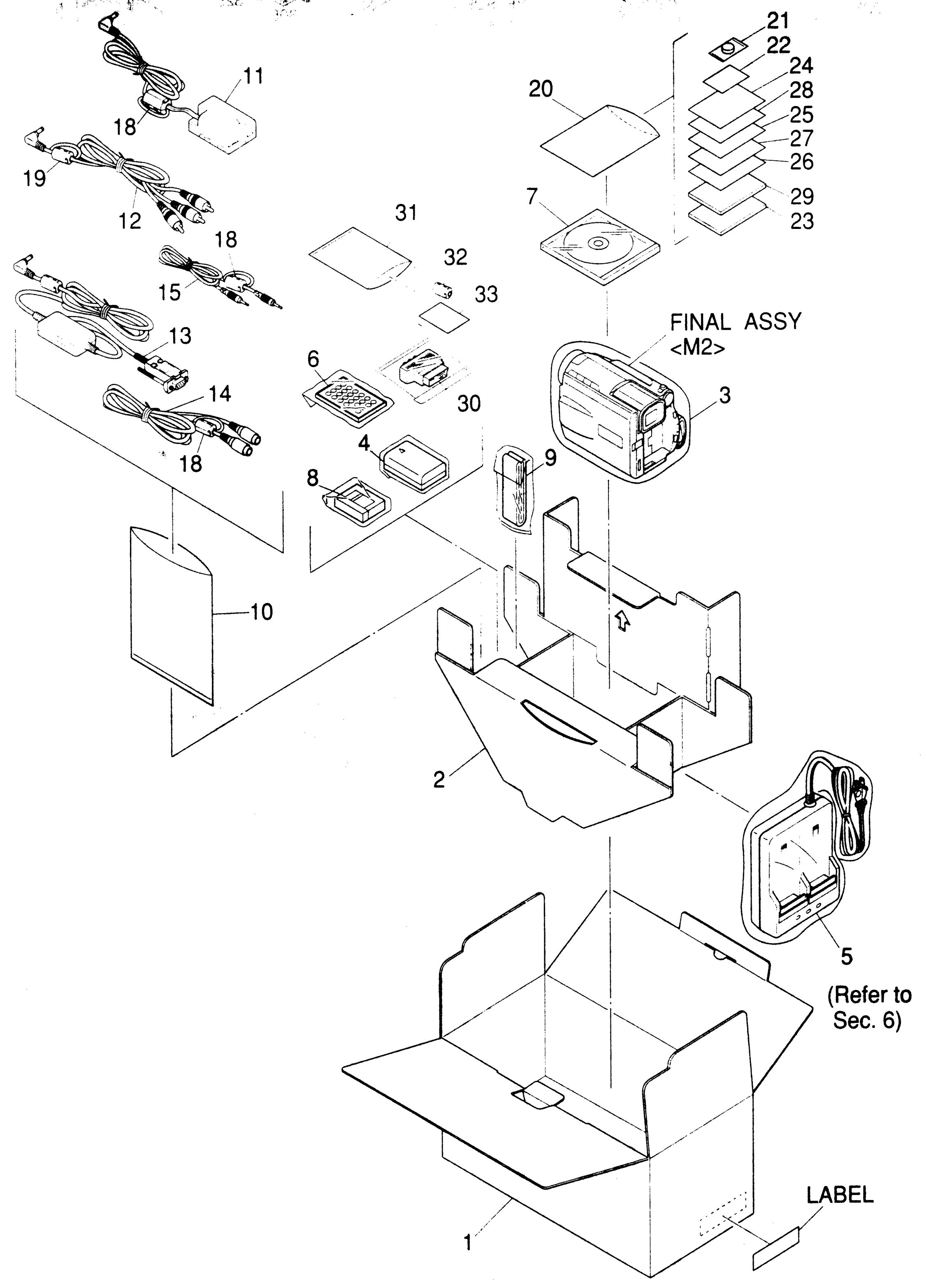
SECTION 5
PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

5.1 PACKING ASSEMBLY <M1>

The instruction manual to be provided with this product will differ according to the destination.

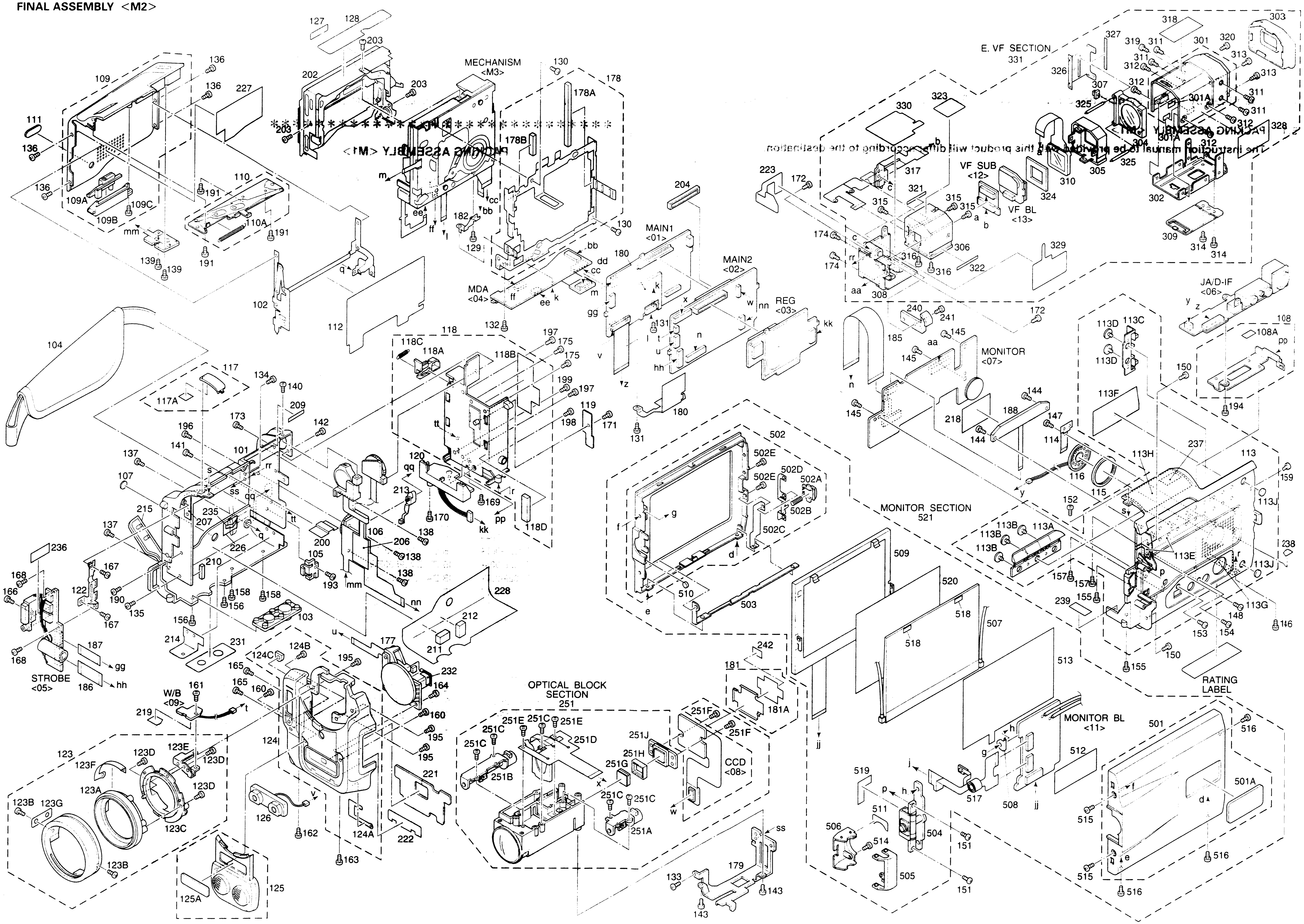


# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION
*****************************			
			PACKING ASSEMBLY <M1>
	1	LY31167-001A	PACKING CASE, DVL9500EG
		LY31167-002A	PACKING CASE, DVL9500EK
	2	LY20433-001A	CUSHION
	3	LY30023-008A	POLY BAG
⚠	4	LY30780-002A	BATTERY PACK
⚠	5	LY20290-008B	BATT.CHARG.ASSY, DVL9500EG
⚠		LY20290-009B	BATT.CHARG.ASSY, DVL9500EK
	6	YQ20922M	REMOTE CONTROLLER
	7	LY31133-002B	CD ROM ASSY
	8	–	TAPE ASSY
	9	LY20186-001A	SHOULDER STRAP
	10	QPGA017-03005	POLY BAG
	11	LY31057-001A	DC CORD PLUG
	12	QAM0120-001	CABLE ASSY(AUDIO/VIDEO)
⚠	13	QAM0099-005	PC CABLE,JLIP
	14	QAM0004-004	S CABLE, S-VIDEO CABLE
	15	YQ31950C	REMOTE CABLE, EDITING CABLE
	18	QQR0491-002	CORE FILTER, X3
	19	QQR0918-002	CORE FILTER
	20	QPA02003006	POLY BAG, DVL9500EG
		YQM30061-3	POLY BAG, DVL9500EK
⚠	21	PECA0903	LI BATTERY
	22	YQ43558	C.CLOTH ASSY
⚠	23	LYT0329-001A	IB(EN), DVL9500EG
⚠		LYT0329-002A	IB(GE), DVL9500EG
⚠		LYT0329-003A	IB(FR), DVL9500EG
⚠		LYT0329-004A	IB(DU), DVL9500EG
⚠		LYT0329-005A	IB(SP), DVL9500EG
⚠		LYT0329-006A	IB(IT), DVL9500EG
⚠		LYT0329-007A	IB(DA), DVL9500EG
⚠		LYT0329-008A	IB(FI), DVL9500EG
⚠		LYT0329-009A	IB(SW), DVL9500EG
⚠		LYT0329-010A	IB(NO), DVL9500EG
⚠		LYT0329-011A	IB(RU), DVL9500EG
⚠		LYT0329-012A	IB(CZ), DVL9500EG
⚠		LYT0329-013A	IB(PO), DVL9500EG
⚠		LYT0329-014A	IB(HU), DVL9500EG
⚠		LYT0331-001A	IB(EN), DVL9500EK
	24	BT-54008-2	GUARANTEE CARD, DVL9500EK
		BT-54013-1	GUARANTEE CARD, DVL9500EG
	25	LYT0162-010A	ACC.LEAFLET
	26	LYT0291-005B	SHEET(INSTALL)
	27	YU30878	REGIST.CARD, DVL9500EK
	28	YU30843-7-1	SOFT WARE PERM.
	29	LYT0291-004B	IB(SOFT)(EN)
		LYT0330-001A	IB(SOFT)(GE), DVL9500EG
		LYT0330-002A	IB(SOFT)(FR), DVL9500EG
	30	PEMC1000-01-02	CONNECTOR,CABLE ADAPTER
	31	LY30023-012A	POLY BAG
	32	QQR0491-002	CORE FILTER
	33	LYT0370-001A	SHEET(ATT.)

• INSTRUCTIONS

EN	ENGLISH
GE	GERMANY
FR	FRENCH
DU	DUTCH
SP	SPANISH
IT	ITALIAN
DA	DANISH
FI	FINNISH
SW	SWEDISH
NO	NORWEGIAN
RU	RUSSIAN
CZ	CZECH
PO	POLISH
HU	HUNGARIAN

5.2 FINAL ASSEMBLY <M2>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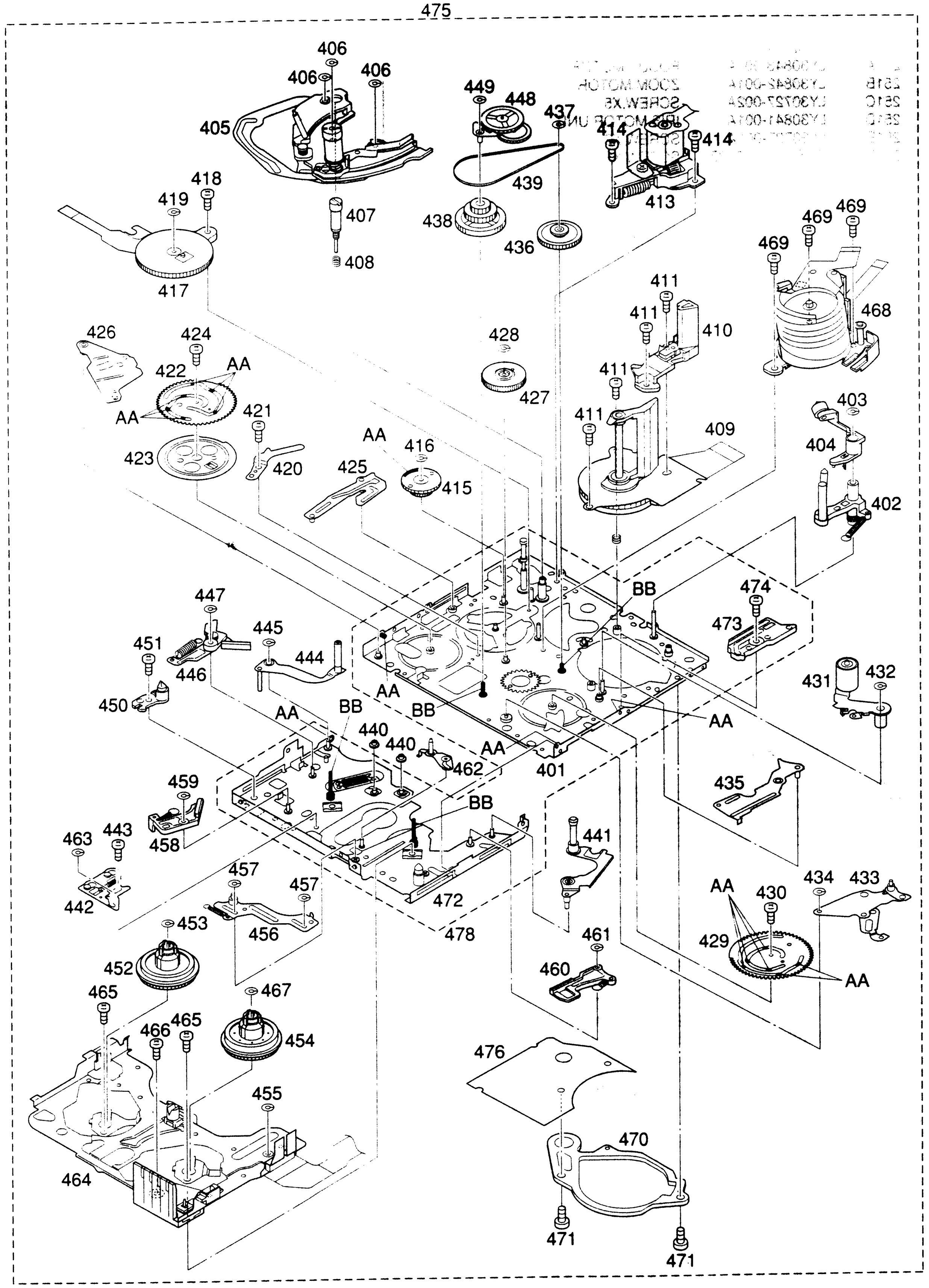
5.3 MECHANISM ASSEMBLY <M3>

BEWARE OF BOGUS PARTS

Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.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Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-P	AA
Oil	YTU94027	BB

NOTE: The section marked in AA and BB, indicate lubrication and greasing areas.

* *

MECHANISM ASSEMBLY <M3>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION
401	LY10077-001G	MAIN DECK ASSY
402	LY30436-001F	SLANT POLE ARM ASSY
403	YQ44246	SLIT WASHER
404	LY30438-001B	CLEANER ARM ASSY
405	LY10080-001N	RAIL ASSY
406	YQ44246	SLIT WASHER,X3
407	LY40353-001D	GUIDE ROLLER(S) ASSY
408	LY30002-006C	COMPRESSION SPRING
409	QAR0026-001	CAPSTAN MOTOR
410	LY30504-001B	CATCHER(T)ASSY
411	YQ43893	MINI SCREW,X4
413	LY30448-001C	MOTOR BKT ASSY
414	YQ43893	MINI SCREW,X2
415	LY30449-001C	WORM WHEEL
416	YQ44246	SLIT WASHER
417	LY40496-001C	ROTARY ENCODER
418	YQ43893	MINI SCREW
419	YQ44246	SLIT WASHER
420	LY40614-001B	GEAR HOLDER
421	YQ43893	MINI SCREW
422	LY30450-001B	MAIN CAM
423	LY30840-001A	BRAKE CTL PLATE
424	YQ43893	MINI SCREW
425	LY40373-001C	TC LEVER ASSY
426	LY30452-001E	SLIDE LEVER ASSY
427	LY30454-001A	CONNECT GEAR
428	YQ44246	SLIT WASHER
429	LY30455-001A	SUB CAM
430	YQ43893	MINI SCREW
431	LY30456-001B	PINCHROLLER ARM ASSY
432	YQ44246	SLIT WASHER
433	LY30459-001A	CHARGE ARM ASSY
434	YQ44246	SLIT WASHER
435	LY40387-001B	BC LEVER ASSY
436	LY40389-001C	R.D.PULLEY ASSY
437	YQ44246-2	SLIT WASHER
438	LY40391-001D	CENTER GEAR ASSY
439	LY40396-001A	TIMING BELT
440	LY40413-001A	COLLAR,X2
441	LY30468-001B	GUIDE ARM ASSY
442	LY30618-001C	SLIDE GUIDE PLATE ASSY
443	YQ43893-2	MINI SCREW
444	LY40420-001H	TENSION ARM ASSY
445	YQ44246	SLIT WASHER
446	LY30471-002A	PAD ARM ASSY
447	YQ44246	SLIT WASHER
448	LY40432-001E	IDLER ARM ASSY
449	YQ44246-2	SLIT WASHER
450	LY30476-001A	GUIDE PIN(SUPPLY)
451	YQ43893	MINI SCREW
452	LY40441-001B	REEL DISK (SUPPLY) ASSY
453	YQ44246	SLIT WASHER
454	LY40443-001B	REEL DISK(TAKE-UP)ASSY
455	YQ44246	SLIT WASHER
456	LY30477-001D	CTL PLATE ASSY
457	YQ44246	SLIT WASHER,X2
458	LY40444-001E	LOADING BRAKE ASSY
459	YQ44246	SLIT WASHER
460	LY40452-001A	SUB BRAKE ASSY
461	YQ44246	SLIT WASHER
462	LY30479-001B	RELEASE GUIDE ASSY
463	YQ44246	SLIT WASHER
464	LY20146-001F	REEL COVER ASSY
465	YQ43893-4	MINI SCREW,X2
466	YQ43893	MINI SCREW
467	YQ44246	SLIT WASHER
468	YDV2086F	DRUM ASSY
469	YQ43893	MINI SCREW,X3
470	LY20138-001C	PWB HOLDER
471	YQ43893	MINI SCREW,X2
472	LY10082-001H	SLIDE DECK ASSY
473	LY30462-001A	LOADING GUIDE
474	YQ43893	MINI SCREW
475	YMA0025D	MECHA(A)ASSY
476	LY41109-001A	SHIELD
478	LY30496-001L	DECK ASSY

* *

FINAL ASSEMBLY <M2>

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	101	LY20383-002H	LOWER CASE ASSY
	102	LY31016-001B	ARM ASSY
	103	LY31019-001A	BASE
	104	LY20235-004C	GRIP BELT
	105	LY31049-001B	BKT(G.B)
	106	LY10172-002A	OPERATION(CAMERA)UNIT
	107	LY41214-001A	COVER(LOWER)
	108	LY41503-001A	BKT(B)ASSY
	108A	LY30016-0N9A	SPACER-A
	109	LY20384-003A	CASS.COVER ASSY
	109A	LY31021-001B	KNOB(LOCK)
	109B	LY31022-001A	HOLDER(KNOB)
	109C	LY30018-023A	SPECIAL SCREW
	110	LY31023-001D	LOCK ASSY
	110A	LY30001-020A	TENSION SPRING
	111	LY41265-001A	COVER(CASS)
	112	LY41459-001A	SHEET(CC)
⚠	113	LY20460-003A	UPPER CASE ASSY
	113A	LY31188-001A	BUTTON(PLAY)
	113B	LY30018-074A	SPECIAL SCREW.X3
	113C	LY31189-002A	BUTTON(MENU)
	113D	LY30018-074A	SPECIAL SCREW.X2
	113E	LY41443-001A	SHEET(EARTH)
	113F	LY41395-001A	SHEET(UPPER)
	113G	LY30016-0Q4A	SPACER-A
	113H	LY30016-0Q7A	SPACER-A
	113J	LY40664-001A	SPACER,X2
	114	LY41236-001A	BKT(SPEAKER)
	115	LY40301-001A	SPACER(SPK)
	116	QAS0029-001	SPEAKER
	117	LY41510-001A	WINDOW ASSY
	117A	LY30016-0P1A	SPACER-A
⚠	118	LY20388-003D	REAR COVER ASSY
	118A	LY31032-001B	KNOB(B.REL)
	118B	LY41227-003B	SHEET(REAR)
	118C	LY30001-018A	TENSION SPRING
	118D	LY41392-001A	SPACER
	119	LY41226-001A	COVER(JIG)
	120	LY31033-001B	BATT.TERM.UNIT
	122	LY41253-001A	BKT(STROBE)
	123	LY31025-001G	HOOD ASSY
	123A	LY31027-001B	LENS HOLDER
	123B	LY30018-011A	SPECIAL SCREW,X2
	123C	LY31028-001E	SHUTTER HOLDER
	123D	LY30018-023A	SPECIAL SCREW,X3
	123E	LY31029-001B	BKT(HOOD)
	123F	LY41419-001A	SHEET(EARTH)
	123G	LY41420-001A	SHEET(EARTH)
	124	LY20385-002B	FRONT COVER ASSY
	124A	LY41421-001A	SHEET(EARTH)
	124B	LY30018-023A	SPECIAL SCREW
	124C	LY41426-001A	SHEET(WINDOW)
	125	LY31030-002B	MIC COVER ASSY
	125A	LY40987-003B	MARK
	126	LY31031-001A	MICROPHONE
	127	LY40699-002A	LABEL(PUSH)
	128	LY40698-002A	LABEL(HOUSING)
	129	YQ43893-4	MINI SCREW
	130	LY30019-003A	SPECIAL SCREW,X2
	131	LY30018-014A	SPECIAL SCREW,X2
	132	LY30018-022A	SPECIAL SCREW
	133	LY30018-064A	SPECIAL SCREW
	134	LY30018-064A	SPECIAL SCREW
	135	LY30018-064A	SPECIAL SCREW
	136	LY30018-066A	SPECIAL SCREW,X4
	137	LY30018-066A	SPECIAL SCREW,X2
	138	LY30018-023A	SPECIAL SCREW,X3
	139	LY30018-021A	SPECIAL SCREW,X2
	140	LY30018-023A	SPECIAL SCREW
	141	LY30018-023A	SPECIAL SCREW
	142	LY30018-037A	SPECIAL SCREW
	143	LY30018-063A	SPECIAL SCREW,X2
	144	LY30018-044A	SPECIAL SCREW,X2
	145	LY30018-044A	SPECIAL SCREW.X3
	146	LY30018-060A	SPECIAL SCREW
	147	LY30018-046A	SPECIAL SCREW
	148	QYSPSPU1640R	SCREW
	150	LY30018-060A	SPECIAL SCREW,X2
	151	LY30018-068A	SPECIAL SCREW,X2
	152	LY30018-067B	SPECIAL SCREW
	153	QYSPSPU1640R	SCREW
	154	LY30018-060A	SPECIAL SCREW
	155	LY30018-069A	SPECIAL SCREW,X2
	156	LY30018-037A	SPECIAL SCREW,X2
	157	LY30018-047A	SPECIAL SCREW,X2
	158	LY30018-067B	SPECIAL SCREW,X2
	159	LY30018-060A	SPECIAL SCREW
	160	LY30018-023A	SPECIAL SCREW,X2
	161	LY30018-005A	SPECIAL SCREW
	162	LY30018-037A	SPECIAL SCREW
	163	LY30018-047A	SPECIAL SCREW
	164	LY30018-023A	SPECIAL SCREW
	165	LY30018-063A	SPECIAL SCREW,X2
	166	LY30018-021A	SPECIAL SCREW
	167	LY30018-021A	SPECIAL SCREW,X2
	168	LY30018-022A	SPECIAL SCREW,X2
	169	LY30018-037A	SPECIAL SCREW
	170	LY30018-037A	SPECIAL SCREW
	171	LY30018-037A	SPECIAL SCREW
	172	LY30018-075A	SPECIAL SCREW,X2
	173	LY30018-005A	SPECIAL SCREW
	174	LY30018-017A	SPECIAL SCREW,X2
	175	LY30018-067B	SPECIAL SCREW,X2
	177	LY20429-001H	L.SHUTTER ASSY
	178	LY31157-001A	BRACKET(M1)ASSY
	178A	LY30016-0L6A	SPACER-A
	178B	LY30016-0L7A	SPACER-A
	179	LY31010-001C	BKT(OP)
	180	LY31012-001A	SHIELD COVER
	181	LY41549-001C	SHIELD(CCD)ASSY
	181A	LY41339-001A	SHEET(SHIELD)
	182	LY40709-001C	BRACKET(GRD)
	185	QAL0151-001	FPC
	186	WJT0014-001A	E-CARD WIRE,STROBE CN502-MAIN2 CN205
	187	QAL0153-001	FPC
	188	LY31080-001B	FPC ASSY(OPERATION DECK UNIT)
	190	LY30018-066A	SPECIAL SCREW
	191	LY30018-021A	SPECIAL SCREW,X3
	193	QYSLSF2050D	SCREW
	194	LY30018-057A	SPECIAL SCREW
	195	LY30018-023A	SPECIAL SCREW,X3
	196	LY30018-044A	SPECIAL SCREW
	197	LY30018-064A	SPECIAL SCREW,X2
	198	LY30018-067B	SPECIAL SCREW
	199	LY30018-064A	SPECIAL SCREW
	200	LY41365-001A	SPACER(SHIELD)
	202	LY30483-001K	CASSETTE HOUSING ASSY
	203	YQ43893-4	MINI SCREW,X3
	204	LY41388-001A	HOLDER(CONN)
	206	LY41391-001A	SHEET(OPE)
	207	LY41348-001A	SHEET(EARTH1)
	209	LY30016-0K8B	SPACER-A
	210	LY30016-0L6A	SPACER-A
	211	LY30016-0N7A	SPACER-A
	212	LY30016-0N6A	SPACER-A
	213	LY31015-001C	BUTTON(TRG)
	214	LY41349-001A	SHEET(EARTH2)
	215	LY31014-001A	JACK COVER
	218	LY30016-0N1A	SPACER-A
	219	LY41461-001A	SPACER(W/B)
	221	LY41423-001A	SHIELD SHEET
	222	LY41427-001A	SHIELD SHEET
	223	LY41403-001A	HEAT SINK(2)
	226	LY30016-0N8A	SPACER-A
	227	LY41457-001C	NET(CASSETTE)
	228	LY41458-001B	NET(LOWER)
	231	LY41493-001A	SHEET(BOTTOM)
	232	LY30016-0P6A	SPACER-A
	235	LY30016-0P2A	SPACER-A
	236	LY30016-0P9A	SPACER-A
	237	LY30016-0Q7A	SPACER-A
	238	LY30016-0Q8A	SPACER-A
	239	LY30016-0R7A	SPACER-A
	240	LY31198-001A	COVER(VF)
	241	LY30018-005A	SPECIAL SCREW
	242	LY30016-0P5A	SPACER-A

– OPTICAL BLOCK SECTION –

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	251	LYH20046-002A	OPTICAL BLOCK ASSY
	251A	LY30843-001A	FOCUS MOTOR
	251B	LY30842-001A	ZOOM MOTOR
	251C	LY30727-002A	SCREW,X5
	251D	LY30841-001A	IRIS MOTOR UNIT
	251E	LY30727-001A	SCREW,X2
	251F	QYSPSGU1750Z	SCREW,X2
	251G	LY41254-001A	OPTICAL LPF
	251H	YQ32122	SPACER RUBBER
	251J	LYH40016-002A	CCD BASE ASSY

– ELECTRONIC VIEWFINDER SECTION –

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	301	LY20390-002A	CASE(TOP)ASSY
	301A	LY41228-001B	GUIDE.X2
	302	LY20392-001C	CASE(BOTTOM)
	303	LY31034-001C	EYE CUP
	304	LY41284-001D	LENS ASSY
	305	LY20394-001B	HOLDER(LCD)
⚠	306	LY20395-001B	HOLDER(SW)
	307	LY41230-001C	SLIDE KNOB
	308	LY31035-001C	HINGE ASSY
	309	LY31054-001B	CAP
	310	QLD0056-001	LCD MODULE
	311	LY30018-022A	SPECIAL SCREW,X4
	312	LY30018-032A	SPECIAL SCREW,X4
	313	LY30018-049A	SPECIAL SCREW,X2
	314	LY30018-055A	SPECIAL SCREW,X2
	315	LY30018-038A	SPECIAL SCREW,X3
	316	LY30018-022A	SPECIAL SCREW,X2
	317	LY31083-001C	FPC ASSY
	318	LY41341-002B	LABEL(CAUTION)
	319	LY30018-038A	SPECIAL SCREW
	320	LY30018-049A	SPECIAL SCREW
	321	LY30016-0L2A	SPACER-A
	322	LY30016-0L1A	SPACER-A
	323	LY41235-001B	SHEET
	324	LY40127-001A	SPACER(LCD.)
	325	LY41382-001C	SHAFT(L.GUID),X2
	326	LY31142-001B	LENS GUIDE BASE
	327	LY30016-0N2A	SPACER-A
	328	LY41341-003B	LABEL(CAUTION)
	329	LY41494-001B	SHEET(VF BKT)
	330	LY41502-001A	SHEET(VF BKT)2
⚠	331	LYH20050-003B	EVF ASSY

– MONITOR SECTION –

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION
⚠	501	LY31038-003A	MONITOR COVER ASSY
	501A	LY31040-003A	PLATE(MONITOR)
	502	LY31041-001C	MONITOR CASE ASSY
	502A	LY31039-001B	BUTTON(LOCK)
	502B	LY30002-029A	COMPRES. SPRING
	502C	LY41295-001A	SHEET(EARTH)
	502D	LY31043-001B	BKT(BUTTON)
	502E	QYSPSPT1730Z	SCREW,X2
	503	LY31042-001A	BKT(MONITOR CASE)
	504	LY30555-002B	HINGE ASSY
	505	LY31044-002B	HINGE COVER 1
	506	LY31045-001B	HINGE COVER 2
	507	QLL0057-001	BACK LIGHT
	508	LY41238-001A	PLATE(EARTH)
	509	QLD0066-001	LCD MODULE
	510	LY40663-002A	MAGNET
	511	LY40764-003A	SHEET
	512	LY30016-0J4A	SPACER-A
	513	LY41237-001A	SHIELD PLATE
	514	QYSPSPT1735D	SCREW
	515	LY30018-028A	SPECIAL SCREW.X2
	516	QYSPSPT1740R	SCREW.X3
	517	LY31079-001F	FPC ASSY
	518	LY30016-0P4A	SPACER-A,X2
	519	LY41463-001A	SHEET(HINGE)
	520	LY41488-001A	SHEET
⚠	521	LYH20051-003A	MONITOR ASSY

5.4 ELECTRICAL PARTS LIST

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MAIN1 BOARD ASSEMBLY <01>

#	REF No.	PART No.	PART NAME, DESCRIPTION	
	PW	YB10237C-02	MAIN BOARD ASSY	
	IC1401	M31020MA-134VP	IC	
		or M31020EA-134VP	IC	
	IC1402	TC7W14FU	IC(DIGITAL)	
	IC1403	TK71235M	IC	
	IC2101	AK4518-VF-X	IC	
	IC2201	BH7760KV	IC	
	IC2402	TC7S08FU	IC(DIGITAL)	
	IC2501	M5282FP-XE	IC	
	IC2502	M5282FP-XE	IC	
	IC2551	BA10324AFV-XE	IC	
	IC2701	SN74AHC1G66K	IC	
	IC2751	TC74HC4052AFT	IC	
	IC3001	YQ44800A	CSP IC ASSY	
		or MN67373Y	IC	
	IC3002	YQ44802A	CSP IC ASSY	
		or MN47V07AY	IC	
	IC3003	M65500FP	IC(DIGITAL)	
	IC3004	MN41V4260DF	IC	
	IC3005	AD9283BRS-50-X	IC	
	IC3201	BH7086KV	IC(DIGITAL)	
	IC3202	T9P90EF	IC	
	IC3501	AN3741FAP-A	IC(DIGITAL)	
	IC3502	AN3731FHQ	IC(DIGITAL)	
	IC3503	MB88345PF	IC	
	IC3701	NJM2538V	IC	
	IC3702	TK71230M	IC	
	Q1401	DTA114EE	TRANSISTOR	
	Q1402	UMG3N	TRANSISTOR	
	Q1403	UMC3N	TRANSISTOR	
	Q1404	UMC3N	TRANSISTOR	
	Q1405	DTC143EE	TRANSISTOR	
	Q2201	2SC4617/QR/-X	TRANSISTOR	
	Q2204	2SC4617/QR/-X	TRANSISTOR	
	Q2205	UMX1N	PAIR TRANSISTOR	
	Q2206	DTC144EE	TRANSISTOR	
	Q2401	2SD1511/R/-X	TRANSISTOR	
	Q2551	DTC144EE	TRANSISTOR	
	Q2552	DTC144EE	TRANSISTOR	
	Q2553	DTC144EE	TRANSISTOR	
	Q2554	DTA143EE	TRANSISTOR	
	Q2555	DTC144EE	TRANSISTOR	
	Q2556	2SA1774/QR/-X	TRANSISTOR	
	Q2557	DTA144EE	TRANSISTOR	
	Q2558	DTC144EE	TRANSISTOR	
	Q2559	DTC144EE	TRANSISTOR	
	Q2560	2SC4617/QR/-X	TRANSISTOR	
	Q2561	DTC144EE	TRANSISTOR	
	Q2601	2SA1774/QR/-X	TRANSISTOR	
	Q2602	2SA1774/QR/-X	TRANSISTOR	
	Q2603	2SA1774/QR/-X	TRANSISTOR	
	Q2604	2SA1774/QR/-X	TRANSISTOR	
	Q2605	2SC4617/QR/-X	TRANSISTOR	
	Q2701	DTC144EE	TRANSISTOR	
	Q2703	2SC4617/QR/-X	TRANSISTOR	
	Q2704	2SC4617/QR/-X	TRANSISTOR	
	Q2705	2SC4617/QR/-X	TRANSISTOR	
	Q2751	DTC144EE	TRANSISTOR	
	Q2752	2SA1774/QR/-X	TRANSISTOR	
	Q2753	2SA1774/QR/-X	TRANSISTOR	
	Q2754	2SC4617/QR/-X	TRANSISTOR	
	Q2755	UMX1N	PAIR TRANSISTOR	
	Q2756	2SA1774/QR/-X	TRANSISTOR	
	Q2757	DTA144EE	TRANSISTOR	
	Q2758	DTC144EE	TRANSISTOR	
	Q2759	DTC144EE	TRANSISTOR	
	Q2760	2SC4617/QR/-X	TRANSISTOR	
	Q3201	2SC4617/RS/-X	TRANSISTOR	
	Q3202	2SC4617/RS/-X	TRANSISTOR	
	Q3204	2SC4617/RS/-X	TRANSISTOR	
	Q3501	2SC4226/4/-X	TRANSISTOR	
	Q3502	DTC124XE	TRANSISTOR	
	Q3503	2SC4617/QRS/-X	TRANSISTOR	
	Q3504	2SA1774/QRS/-X	TRANSISTOR	
	Q3505	2SC4226/4/-X	TRANSISTOR	
	Q3506	2SC4226/4/-X	TRANSISTOR	
	Q3507	2SD1979/S/-X	TRANSISTOR	
	Q3508	2SD1979/S/-X	TRANSISTOR	
	Q3509	2SA1577/QR/-X	TRANSISTOR	
	Q3510	DTC144EE	TRANSISTOR	
	Q3511	2SA1774/QRS/-X	TRANSISTOR	
	Q3512	DTC144EE	TRANSISTOR	
	Q3701	DTC144EE	TRANSISTOR	
	Q3702	2SA1774/RS/-X	TRANSISTOR	
	Q3703	2SA1774/RS/-X	TRANSISTOR	
	Q3704	DTC143ZE	TRANSISTOR	
	Q3705	2SA1774/RS/-X	TRANSISTOR	
	Q3706	2SA1774/RS/-X	TRANSISTOR	
	Q3707	2SA1774/RS/-X	TRANSISTOR	
	Q3708	2SC4617/RS/-X	TRANSISTOR	
	Q3709	DTC144EE	TRANSISTOR	
	Q3710	2SA1774/RS/-X	TRANSISTOR	
	Q3711	2SA1774/RS/-X	TRANSISTOR	
	Q3712	UMA2N	TRANSISTOR	
	Q3713	UMT2N	PAIR TRANSISTOR	
	D2551	DAN222	DIODE	
	D2552	DAN222	DIODE	
	D2553	DAP222	DIODE	
	D2751	DAN222	DIODE	
	D2752	DA221	DIODE	
	D2753	DA221	DIODE	
	D3701	DTZ6.8	ZENER DIODE	
	D3702	DTZ6.8	ZENER DIODE	
	D3703	DTZ6.8	ZENER DIODE	
	R1402	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R1403	NRSA6AJ-105W	MG RESISTOR	1MΩ.1/16W
	R1404	NRSA6AJ-220W	MG RESISTOR	22Ω.1/16W
	R1405	NRSA6AJ-102W	MG RESISTOR	1kΩ.1/16W
	R1406	NRSA6AJ-102W	MG RESISTOR	1kΩ.1/16W
	R1407	NRSA6AJ-102W	MG RESISTOR	1kΩ.1/16W
	R1408	NRSA6AJ-102W	MG RESISTOR	1kΩ.1/16W
	R1409	NRSA6AJ-102W	MG RESISTOR	1kΩ.1/16W
	R1410	NRSA6AJ-102W	MG RESISTOR	1kΩ.1/16W
	R1411	NRSA6AJ-332W	MG RESISTOR	3.3kΩ.1/16W
	R1412	NRSA6AJ-332W	MG RESISTOR	3.3kΩ.1/16W
	R1413	NRSA6AJ-332W	MG RESISTOR	3.3kΩ.1/16W
	R1414	NRSA6AJ-332W	MG RESISTOR	3.3kΩ.1/16W
	R1415	NRSA6AJ-223W	MG RESISTOR	22kΩ.1/16W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
1416	NRVA6AD-153W	CMF RESISTOR	15kΩ,1/16W
1417	NRVA6AD-753W	CMF RESISTOR	75kΩ,1/16W
1418	NRSA6AJ-334W	MG RESISTOR	330kΩ,1/16W
1419	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
1421	NRVA6AD-153W	CMF RESISTOR	15kΩ,1/16W
1422	NRVA6AD-103W	CMF RESISTOR	10kΩ,1/16W
1423	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
1424	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
1425	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
1426	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
1427	NRVA6AD-683W	CMF RESISTOR	68kΩ,1/16W
1428	NRVA6AD-683W	CMF RESISTOR	68kΩ,1/16W
1429	NRVA6AD-820W	CMF RESISTOR	82Ω,1/16W
1430	NRVA6AD-101W	CMF RESISTOR	100Ω,1/16W
1431	NRSA6AJ-332W	MG RESISTOR	3.3kΩ,1/16W
1432	NRSA6AJ-332W	MG RESISTOR	3.3kΩ,1/16W
1433	NRSA6AJ-332W	MG RESISTOR	3.3kΩ,1/16W
1434	NRSA6AJ-122W	MG RESISTOR	1.2kΩ,1/16W
1435	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
1436	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
1437	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
1438	NRSA6AJ-474W	MG RESISTOR	470kΩ,1/16W
2102	NRSA6AJ-100W	MG RESISTOR	10Ω,1/16W
2107	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
2108	NRSA6AJ-471W	MG RESISTOR	470Ω,1/16W
2109	NRSA6AJ-471W	MG RESISTOR	470Ω,1/16W
2110	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
2111	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
2112	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
2113	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
2114	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
2115	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
2116	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
2201	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
2206	NRSA6AJ-222W	MG RESISTOR	2.2kΩ,1/16W
2207	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
2210	NRSA6AJ-564W	MG RESISTOR	560kΩ,1/16W
2211	NRSA6AJ-564W	MG RESISTOR	560kΩ,1/16W
2212	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
2213	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
2216	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
2217	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
2218	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
2221	NRSA6AJ-105W	MG RESISTOR	1MΩ,1/16W
2224	NRSA6AJ-332W	MG RESISTOR	3.3kΩ,1/16W
2226	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
2227	NRSA6AJ-564W	MG RESISTOR	560kΩ,1/16W
2228	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
2229	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
2231	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
2232	NRSA6AJ-222W	MG RESISTOR	2.2kΩ,1/16W
2233	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
2234	NRSA6AJ-222W	MG RESISTOR	2.2kΩ,1/16W
2235	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
2260	NRSA6AJ-153W	MG RESISTOR	15kΩ,1/16W
2261	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
2262	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
2263	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
[illegible]	[illegible]	MG RESISTOR	10kΩ,1/16W
2265	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
2273	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R2274	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R2275	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R2401	NRSA6AJ-104W	MG RESISTOR	100kΩ,1/16W
R2402	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R2403	NRSA6AJ-104W	MG RESISTOR	100kΩ,1/16W
R2405	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R2406	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R2411	NRSA6AD-163W	MG RESISTOR	16kΩ,1/16W
R2415	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R2419	NRSA6AD-912W	MG RESISTOR	9.1kΩ,1/16W
R2501	NRSA6AJ-470W	MG RESISTOR	47Ω,1/16W
R2502	NRSA6AJ-470W	MG RESISTOR	47Ω,1/16W
R2503	NRSA6AJ-470W	MG RESISTOR	47Ω,1/16W
R2507	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R2509	NRSA6AJ-153W	MG RESISTOR	15kΩ,1/16W
R2510	NRSA6AJ-153W	MG RESISTOR	15kΩ,1/16W
R2511	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R2512	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R2513	NRSA6AJ-474W	MG RESISTOR	470kΩ,1/16W
R2514	NRSA6AJ-474W	MG RESISTOR	470kΩ,1/16W
R2515	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R2516	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R2517	NRSA6AJ-682W	MG RESISTOR	6.8kΩ,1/16W
R2518	NRSA6AJ-682W	MG RESISTOR	6.8kΩ,1/16W
R2519	NRSA6AJ-752W	MG RESISTOR	7.5kΩ,1/16W
R2520	NRSA6AJ-752W	MG RESISTOR	7.5kΩ,1/16W
R2551	NRSA6AJ-820W	MG RESISTOR	82Ω,1/16W
R2552	NRSA6AJ-820W	MG RESISTOR	82Ω,1/16W
R2553	NRSA6AJ-820W	MG RESISTOR	82Ω,1/16W
R2554	NRSA6AJ-153W	MG RESISTOR	15kΩ,1/16W
R2555	NRSA6AJ-153W	MG RESISTOR	15kΩ,1/16W
R2556	NRVA6AD-104W	CMF RESISTOR	100kΩ,1/16W
R2557	NRVA6AD-102W	CMF RESISTOR	1kΩ,1/16W
R2558	NRSA6AJ-105W	MG RESISTOR	1MΩ,1/16W
R2559	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R2560	NRSA6AJ-273W	MG RESISTOR	27kΩ,1/16W
R2562	NRVA6AD-153W	CMF RESISTOR	15kΩ,1/16W
R2563	NRVA6AD-393W	CMF RESISTOR	39kΩ,1/16W
R2564	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R2565	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R2567	NRSA6AJ-273W	MG RESISTOR	27kΩ,1/16W
R2568	NRSA6AJ-104W	MG RESISTOR	100kΩ,1/16W
R2569	NRSA6AJ-133W	MG RESISTOR	13kΩ,1/16W
R2570	NRSA6AJ-394W	MG RESISTOR	390kΩ,1/16W
R2571	NRSA6AJ-333W	MG RESISTOR	33kΩ,1/16W
R2572	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R2573	NRSA6AJ-224W	MG RESISTOR	220kΩ,1/16W
R2574	NRSA6AJ-155W	MG RESISTOR	1.5MΩ,1/16W
R2575	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R2576	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R2601	NRSA63J-202X	MG RESISTOR	2kΩ,1/16W
R2602	NRSA63J-202X	MG RESISTOR	2kΩ,1/16W
R2603	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R2604	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R2605	NRSA6AJ-333W	MG RESISTOR	33kΩ,1/16W
R2606	NRSA6AJ-333W	MG RESISTOR	33kΩ,1/16W
R2609	NRSA6AJ-472W	MG RESISTOR	4.7kΩ,1/16W
R2610	NRSA6AJ-472W	MG RESISTOR	4.7kΩ,1/16W
R2611	NRSA6AJ-472W	MG RESISTOR	4.7kΩ,1/16W
R2612	NRSA6AJ-472W	MG RESISTOR	4.7kΩ,1/16W
R2613	NCB31HK-681X	CAPACITOR	680pF,50V
R2614	NCB31HK-681X	CAPACITOR	680pF,50V
R2615	NRVA6AD-222W	CMF RESISTOR	2.2kΩ,1/16W
R2616	NRSA6AJ-222W	MG RESISTOR	2.2kΩ,1/16W
R2617	NRSA6AJ-681W	MG RESISTOR	680Ω,1/16W
R2618	NRSA6AJ-681W	MG RESISTOR	680Ω,1/16W
R2619	NRVA6AD-222W	CMF RESISTOR	2.2kΩ,1/16W
R2621	NRSA6AJ-112W	MG RESISTOR	1.1kΩ,1/16W
R2622	NRSA6AJ-112W	MG RESISTOR	1.1kΩ,1/16W
R2623	NRSA6AJ-333W	MG RESISTOR	33kΩ,1/16W
R2624	NRSA6AJ-333W	MG RESISTOR	33kΩ,1/16W
R2625	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R2626	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R2629	NRSA6AJ-333W	MG RESISTOR	33kΩ,1/16W
R2630	NRSA6AJ-333W	MG RESISTOR	33kΩ,1/16W
R2701	NRSA6AJ-151W	MG RESISTOR	150Ω,1/16W
R2702	NRSA6AJ-100W	MG RESISTOR	10Ω,1/16W
R2705	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R2706	NRSA6AJ-104W	MG RESISTOR	100kΩ,1/16W
R2709	NRSA6AJ-221W	MG RESISTOR	220Ω,1/16W
R2710	NRSA6AJ-332W	MG RESISTOR	3.3kΩ,1/16W
R2711	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R2712	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R2713	NRSA6AJ-333W	MG RESISTOR	33kΩ,1/16W
R2714	NRSA6AJ-333W	MG RESISTOR	33kΩ,1/16W
R2716	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R2719	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R2721	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R2722	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R2725	NRSA6AJ-332W	MG RESISTOR	3.3kΩ,1/16W
R2751	NRSA6AJ-820W	MG RESISTOR	82Ω,1/16W
R2752	NRSA6AJ-820W	MG RESISTOR	82Ω,1/16W
R2753	NRSA6AJ-104W	MG RESISTOR	100kΩ,1/16W
R2754	NRSA6AJ-104W	MG RESISTOR	100kΩ,1/16W
R2755	NRSA6AJ-104W	MG RESISTOR	100kΩ,1/16W
R2756	NRSA6AJ-332W	MG RESISTOR	3.3kΩ,1/16W
R2757	NRSA6AJ-564W	MG RESISTOR	560kΩ,1/16W
R2758	NRSA6AJ-564W	MG RESISTOR	560kΩ,1/16W
R2759	NRSA6AJ-821W	MG RESISTOR	820Ω,1/16W
R2760	NRSA6AJ-821W	MG RESISTOR	820Ω,1/16W
R2764	NRSA6AJ-182W	MG RESISTOR	1.8kΩ,1/16W
R2766	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R2767	NRSA6AJ-222W	MG RESISTOR	2.2kΩ,1/16W
R2768	NRSA6AJ-564W	MG RESISTOR	560kΩ,1/16W
R2769	NRSA6AJ-152W	MG RESISTOR	1.5kΩ,1/16W
R2770	NRSA6AJ-104W	MG RESISTOR	100kΩ,1/16W
R2771	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R2772	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R2773	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R2774	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R3001	NRSA6AJ-271W	MG RESISTOR	270Ω,1/16W
R3002	NRSA6AJ-105W	MG RESISTOR	1MΩ,1/16W
R3003	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R3004	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R3005	NRSA6AJ-105W	MG RESISTOR	1MΩ,1/16W
R3006	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R3007	NRSA6AJ-221W	MG RESISTOR	220Ω,1/16W
R3008	NRSA6AJ-471W	MG RESISTOR	470Ω,1/16W
R3009	NRSA6AJ-471W	MG RESISTOR	470Ω,1/16W
R3010	NRSA6AJ-221W	MG RESISTOR	220Ω,1/16W
R3011	NRSA6AJ-221W	MG RESISTOR	220Ω,1/16W
R3012	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R3013	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
R3014	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R3015	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R3016	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R3017	NRSA6AJ-682W	MG RESISTOR	6.8kΩ,1/16W
R3018	NRSA6AJ-152W	MG RESISTOR	1.5kΩ,1/16W
R3019	NRSA6AJ-224W	MG RESISTOR	220kΩ,1/16W
R3020	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R3021	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R3022	NRSA6AJ-124W	MG RESISTOR	120kΩ,1/16W
R3023	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R3024	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R3025	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R3026	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R3027	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R3029	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R3031	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R3203	NRVA6AD-113W	CMF RESISTOR	11kΩ,1/16W
R3204	NRVA6AD-912W	CMF RESISTOR	9.1kΩ,1/16W
R3205	NRSA6AJ-121W	MG RESISTOR	120Ω,1/16W
R3206	NRSA6AJ-682W	MG RESISTOR	6.8kΩ,1/16W
R3207	NRSA6AJ-332W	MG RESISTOR	3.3kΩ,1/16W
R3208	NRSA6AJ-101W	MG RESISTOR	100Ω,1/16W
R3210	NRSA6AJ-223W	MG RESISTOR	22kΩ,1/16W
R3211	NRSA6AJ-183W	MG RESISTOR	18kΩ,1/16W
R3213	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R3214	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R3217	NRVA6AD-123W	CMF RESISTOR	12kΩ,1/16W
R3218	NRVA6AD-123W	CMF RESISTOR	12kΩ,1/16W
R3219	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R3220	NRVA6AD-153W	CMF RESISTOR	15kΩ,1/16W
R3221	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R3222	NRVA6AD-223W	CMF RESISTOR	22kΩ,1/16W
R3224	NRSA6AJ-105W	MG RESISTOR	1MΩ,1/16W
R3225	NRSA6AJ-392W	MG RESISTOR	3.9kΩ,1/16W
R3226	NRSA6AJ-392W	MG RESISTOR	3.9kΩ,1/16W
R3227	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R3228	NRSA6AJ-105W	MG RESISTOR	1MΩ,1/16W
R3229	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
R3230	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R3234	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R3235	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R3237	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3238	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R3239	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R3240	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R3241	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R3242	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R3502	NRSA6AJ-181W	MG RESISTOR	180Ω,1/16W
R3503	NRSA6AJ-301W	MG RESISTOR	300Ω,1/16W
R3504	NRSA6AJ-391W	MG RESISTOR	390Ω,1/16W
R3505	NRSA6AJ-152W	MG RESISTOR	1.5kΩ,1/16W
R3507	NRSA6AJ-104W	MG RESISTOR	100kΩ,1/16W
R3508	NRSA6AJ-392W	MG RESISTOR	3.9kΩ,1/16W
R3509	NRSA6AJ-392W	MG RESISTOR	3.9kΩ,1/16W
R3510	NRSA6AJ-221W	MG RESISTOR	220Ω,1/16W
R3513	NRSA6AJ-392W	MG RESISTOR	3.9kΩ,1/16W
R3514	NRSA6AJ-392W	MG RESISTOR	3.9kΩ,1/16W
R3515	NRSA6AJ-392W	MG RESISTOR	3.9kΩ,1/16W
R3516	NRSA6AJ-562W	MG RESISTOR	5.6kΩ,1/16W
R3517	NRSA6AJ-683W	MG RESISTOR	68kΩ,1/16W

#	REF No.	PART No.	PART NAME	DESCRIPTION
	3518	NRSA6AJ-331W	MG RESISTOR	330Ω,1/16W
	3519	NRSA6AJ-562W	MG RESISTOR	5.6kΩ,1/16W
	3520	NRSA6AJ-222W	MG RESISTOR	2.2kΩ,1/16W
	3521	NRSA6AJ-391W	MG RESISTOR	390Ω,1/16W
	3522	NRSA6AJ-121W	MG RESISTOR	120Ω,1/16W
	3523	NRSA6AJ-121W	MG RESISTOR	120Ω,1/16W
	3524	NRSA6AJ-121W	MG RESISTOR	120Ω,1/16W
	3525	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
	3526	NRSA6AJ-822W	MG RESISTOR	8.2kΩ,1/16W
	3527	NRSA6AJ-222W	MG RESISTOR	2.2kΩ,1/16W
	3528	NRSA6AJ-221W	MG RESISTOR	220Ω,1/16W
	3529	NRSA6AJ-562W	MG RESISTOR	5.6kΩ,1/16W
	3530	NRSA6AJ-392W	MG RESISTOR	3.9kΩ,1/16W
	3531	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
	3532	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
	3533	NRSA6AJ-472W	MG RESISTOR	4.7kΩ,1/16W
	3534	NRSA6AJ-563W	MG RESISTOR	56kΩ,1/16W
	3535	NRSA6AJ-564W	MG RESISTOR	560kΩ,1/16W
	3536	NRSA6AJ-392W	MG RESISTOR	3.9kΩ,1/16W
	3537	NRSA6AJ-561W	MG RESISTOR	560Ω,1/16W
	3538	NRSA6AJ-224W	MG RESISTOR	220kΩ,1/16W
	3539	NRSA6AJ-680W	MG RESISTOR	68Ω,1/16W
	3540	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
	3541	NRSA6AJ-392W	MG RESISTOR	3.9kΩ,1/16W
	3542	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
	3543	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
	3544	NRSA6AJ-152W	MG RESISTOR	1.5kΩ,1/16W
	3545	NRSA6AJ-100W	MG RESISTOR	10Ω,1/16W
	3546	NRSA6AJ-152W	MG RESISTOR	1.5kΩ,1/16W
	3547	NRSA6AJ-123W	MG RESISTOR	12kΩ,1/16W
	3548	NRSA6AJ-680W	MG RESISTOR	68Ω,1/16W
	3550	NRSA6AJ-471W	MG RESISTOR	470Ω,1/16W
	3551	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
	3553	NRSA6AJ-271W	MG RESISTOR	270Ω,1/16W
	3554	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
	3555	NRSA6AJ-152W	MG RESISTOR	1.5kΩ,1/16W
	3556	NRSA6AJ-123W	MG RESISTOR	12kΩ,1/16W
	3557	NRSA6AJ-680W	MG RESISTOR	68Ω,1/16W
	3558	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
	3559	NRSA6AJ-181W	MG RESISTOR	180Ω,1/16W
	3560	NRSA6AJ-181W	MG RESISTOR	180Ω,1/16W
	3561	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
	3562	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
	3563	NRSA6AJ-392W	MG RESISTOR	3.9kΩ,1/16W
	3564	NRSA6AJ-124W	MG RESISTOR	120kΩ,1/16W
	3565	NRSA6AJ-563W	MG RESISTOR	56kΩ,1/16W
	3566	NRSA6AJ-472W	MG RESISTOR	4.7kΩ,1/16W
	3570	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
	3702	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
	3703	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
	3704	NRSA6AJ-224W	MG RESISTOR	220kΩ,1/16W
	3705	NRSA6AJ-121W	MG RESISTOR	120Ω,1/16W
	3706	NRSA6AJ-225W	MG RESISTOR	2.2MΩ,1/16W
	3707	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
	3708	NRSA6AJ-121W	MG RESISTOR	120Ω,1/16W
	3709	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
	3712	NRVA6AD-561W	CMF RESISTOR	560Ω,1/16W
	3713	NRVA6AD-103W	CMF RESISTOR	10kΩ,1/16W
	3714	NRSA6AJ-561W	MG RESISTOR	560Ω,1/16W
	3715	NRVA6AD-472W	CMF RESISTOR	4.7kΩ,1/16W
	3716	NRVA6AD-222W	CMF RESISTOR	2.2kΩ,1/16W
	R3717	NRSA6AJ-222W	MG RESISTOR	2.2kΩ,1/16W
	R3718	NRVA6AD-472W	CMF RESISTOR	4.7kΩ,1/16W
	R3719	NRVA6AD-222W	CMF RESISTOR	2.2kΩ,1/16W
	R3720	NRSA6AJ-222W	MG RESISTOR	2.2kΩ,1/16W
	R3721	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
	R3722	NRSA6AJ-100W	MG RESISTOR	10Ω,1/16W
	R3723	NRSA6AJ-100W	MG RESISTOR	10Ω,1/16W
	R3724	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
	R3725	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
	R3726	NRSA6AJ-821W	MG RESISTOR	820Ω,1/16W
	R3727	NRSA6AJ-821W	MG RESISTOR	820Ω,1/16W
	R3731	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
	R3732	NRSA6AJ-472W	MG RESISTOR	4.7kΩ,1/16W
	R3734	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
	RA1401	NRZ0034-102W	NETWORK RESISTOR	1kΩ
	RA1402	NRZ0034-102W	NETWORK RESISTOR	1kΩ
	RA1403	NRZ0034-473W	NETWORK RESISTOR	47kΩ
	RA3001	NRZ0034-0R0W	NETWORK RESISTOR	0Ω
	RA3002	NRZ0034-0R0W	NETWORK RESISTOR	0Ω
	RA3003	NRZ0034-0R0W	NETWORK RESISTOR	0Ω
	RA3004	NRZ0034-0R0W	NETWORK RESISTOR	0Ω
	RA3005	NRZ0034-0R0W	NETWORK RESISTOR	0Ω
	RA3201	NRZ0034-0R0W	NETWORK RESISTOR	0Ω
	RA3202	NRZ0034-0R0W	NETWORK RESISTOR	0Ω
	RA3203	NRZ0034-0R0W	NETWORK RESISTOR	0Ω
	C1401	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C1402	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C1403	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C1404	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C1405	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C1406	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C1407	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C1408	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C1409	NDCA1HJ-120W	CAPACITOR	12pF,50V
	C1410	NDCA1HJ-120W	CAPACITOR	12pF,50V
	C1411	NCBA1CK-223W	CAPACITOR	0.022µF,16V
	C1412	NCBA1CK-223W	CAPACITOR	0.022µF,16V
	C1413	NCBA1CK-223W	CAPACITOR	0.022µF,16V
	C1414	NCBA1CK-223W	CAPACITOR	0.022µF,16V
	C1415	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C1416	NCB21AK-105X	CAPACITOR	1µF,10V
	C1417	NBE20JM-106X	T CAPACITOR	10µF,6.3V
	C2101	NBE20JM-106X	T CAPACITOR	10µF,6.3V
	C2102	NBE20JM-106X	T CAPACITOR	10µF,6.3V
	C2103	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2104	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2105	NBE90JM-475X	T CAPACITOR	4.7µF,6.3V
	C2106	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2107	NCB21AK-105X	CAPACITOR	1µF,10V
	C2108	NCB21AK-105X	CAPACITOR	1µF,10V
	C2109	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2110	NCBA1HK-222W	CAPACITOR	0.0022µF,50V
	C2111	NCBA1HK-222W	CAPACITOR	0.0022µF,50V
	C2112	NBE90JM-475X	T CAPACITOR	4.7µF,6.3V
	C2113	NBE90JM-475X	T CAPACITOR	4.7µF,6.3V
	C2114	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2115	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2201	NBE20JM-106X	T CAPACITOR	10µF,6.3V
	C2202	NBE20JM-106X	T CAPACITOR	10µF,6.3V
	C2204	NBE40GM-107X	T CAPACITOR	100µF,4.0V
	C2206	NBE40JM-476X	T CAPACITOR	47µF,6.3V
	C2207	NCB21AK-105X	CAPACITOR	1µF,10V
	C2208	NCB21AK-105X	CAPACITOR	1µF,10V
	C2210	NBE20JM-106X	T CAPACITOR	10µF,6.3V
	C2211	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2212	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2213	NCBA1EK-472W	CAPACITOR	0.0047µF,25V
	C2214	NCBA1EK-472W	CAPACITOR	0.0047µF,25V
	C2215	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C2216	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C2217	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C2220	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
	C2221	NCB21AK-105X	CAPACITOR	1µF,10V
	C2222	NCB21AK-105X	CAPACITOR	1µF,10V
	C2223	NCB31CK-563X	CAPACITOR	0.056µF,16V
	C2224	NCB31CK-563X	CAPACITOR	0.056µF,16V
	C2225	NCB31CK-563X	CAPACITOR	0.056µF,16V
	C2226	NCB31CK-563X	CAPACITOR	0.056µF,16V
	C2237	NCB31EK-153X	CAPACITOR	0.015µF,25V
	C2238	NCB31EK-153X	CAPACITOR	0.015µF,25V
	C2239	NCB31CK-273X	CAPACITOR	0.027µF,16V
	C2240	NCB31CK-273X	CAPACITOR	0.027µF,16V
	C2243	NCBA1HK-102W	CAPACITOR	0.001µF,50V
	C2244	NCBA1HK-102W	CAPACITOR	0.001µF,50V
	C2401	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C2402	NCF31AZ-105X	CAPACITOR	1µF,10V
	C2403	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C2405	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2407	NBEE0JM-476X	T CAPACITOR	47µF,6.3V
	C2501	NBE20JM-106X	T CAPACITOR	10µF,6.3V
	C2503	NCB21AK-105X	CAPACITOR	1µF,10V
	C2504	NCB21AK-105X	CAPACITOR	1µF,10V
	C2505	NCB21AK-105X	CAPACITOR	1µF,10V
	C2506	NCB21AK-105X	CAPACITOR	1µF,10V
	C2507	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C2508	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C2509	NDCA1HJ-101W	CAPACITOR	100pF,50V
	C2510	NDCA1HJ-101W	CAPACITOR	100pF,50V
	C2511	NCB21AK-105X	CAPACITOR	1µF,10V
	C2512	NCB21AK-105X	CAPACITOR	1µF,10V
	C2513	NCF21CZ-105X	CAPACITOR	1µF,16V
	C2514	NCF21CZ-105X	CAPACITOR	1µF,16V
	C2516	NCB21AK-105X	CAPACITOR	1µF,10V
	C2517	NCB21AK-105X	CAPACITOR	1µF,10V
	C2551	NBE20JM-106X	T CAPACITOR	10µF,6.3V
	C2552	NCBA1EK-472W	CAPACITOR	0.0047µF,25V
	C2553	NCBA1EK-472W	CAPACITOR	0.0047µF,25V
	C2555	NCB21CK-474X	CAPACITOR	0.47µF,16V
	C2556	NCB21AK-105X	CAPACITOR	1µF,10V
	C2557	NDCA1HJ-470W	CAPACITOR	47pF,50V
	C2558	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2559	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C2560	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C2601	NCB31EK-153X	CAPACITOR	0.015µF,25V
	C2602	NCB31EK-153X	CAPACITOR	0.015µF,25V
	C2605	NCB21AK-105X	CAPACITOR	1µF,10V
	C2606	NCB21AK-105X	CAPACITOR	1µF,10V
	C2609	NCB21AK-105X	CAPACITOR	1µF,10V
	C2610	NCB21AK-105X	CAPACITOR	1µF,10V
	C2611	NBE40JM-476X	T CAPACITOR	47µF,6.3V
	C2612	NBE20JM-106X	T CAPACITOR	10µF,6.3V
	C2613	NBE20JM-106X	T CAPACITOR	10µF,6.3V
	C2614	NCBA1HK-331W	CAPACITOR	330pF,50V
	C2615	NCBA1HK-331W	CAPACITOR	330pF,50V
	C2616	NCB31EK-103X	CAPACITOR	0.01µF,25V
	C2617	NCB31EK-103X	CAPACITOR	0.01µF,25V
	C2702	NBE20GM-226X	T CAPACITOR	22µF,4.0V
	C2703	NBE20GM-226X	T CAPACITOR	22µF,4.0V
	C2705	NCBA1EK-682W	CAPACITOR	0.0068µF,25V
	C2708	NCBA1HK-332W	CAPACITOR	0.0033µF,50V
	C2751	NBE41AM-106X	T CAPACITOR	10µF,10V
	C2752	PECA1172	T CAPACITOR	47µF,6.3V
	C2753	NCB21AK-105X	CAPACITOR	1µF,10V
	C2754	NCB21AK-105X	CAPACITOR	1µF,10V
	C2756	NBE21AM-106X	T CAPACITOR	10µF,10V
	C2762	NCF31AZ-105X	CAPACITOR	1µF,10V
	C2763	NBE40JM-476X	T CAPACITOR	47µF,6.3V
	C3001	NDCA1HJ-6R0W	CAPACITOR	6pF,50V
	C3002	NDCA1HJ-6R0W	CAPACITOR	6pF,50V
	C3003	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3004	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3005	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3006	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C3007	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3008	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3009	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C3010	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3011	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3012	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3013	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3015	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3016	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C3017	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3018	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3019	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3021	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C3022	NBE80GM-226X	T CAPACITOR	22µF,4.0V
	C3023	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3024	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3025	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C3026	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3027	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C3028	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C3029	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C3030	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C3031	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3032	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C3033	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3034	NBE40JM-476X	T CAPACITOR	47µF,6.3V
	C3035	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C3036	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3037	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C3038	NBM90JM-106X	T CAPACITOR	10µF,6.3V
	C3039	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3040	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C3201	NCF31AZ-105X	CAPACITOR	1µF,10V
	C3202	NDCA1HJ-101W	CAPACITOR	100pF,50V
	C3203	NCB21AK-105X	CAPACITOR	1µF,10V
	C3204	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3205	NDCA1HJ-101W	CAPACITOR	100pF,50V
	C3206	NDCA1HJ-100W	CAPACITOR	10pF,50V
	C3207	NDCA1HJ-150W	CAPACITOR	15pF,50V
	C3208	NCF31AZ-105X	CAPACITOR	1µF,10V

#	REF No	PART No.	PART NAME. DESCRIPTION	
	209	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	210	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	213	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	3216	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	3217	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	3218	NBE20JM-226X	T CAPACITOR	22µF,6.3V
	3219	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	3220	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	3221	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	3222	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	3223	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	3224	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	3225	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	226	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	227	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	228	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	229	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	230	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	231	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	232	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	234	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	235	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	236	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	238	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	3239	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	3240	NCF31AZ-105X	CAPACITOR	1µF,10V
	3241	NCF31AZ-105X	CAPACITOR	1µF,10V
	3243	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	244	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	3501	NDCA1HJ-220W	CAPACITOR	22pF,50V
	502	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	503	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	3505	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	506	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	3507	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	3508	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	3509	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	3510	NCBA1HK-681W	CAPACITOR	680pF,50V
	511	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	512	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	513	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	514	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	515	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	516	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	517	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	518	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	519	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	520	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	521	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	522	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	523	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	524	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	525	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	526	NCB31CK-273X	CAPACITOR	0.027µF,16V
	527	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	528	NCB21AK-105X	CAPACITOR	1µF,10V
	529	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	531	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	532	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	533	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	534	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3537	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3538	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3539	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3540	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C3541	NCBA1HK-331W	CAPACITOR	330pF,50V
	C3542	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3543	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3544	NCBA1HK-152W	CAPACITOR	0.0015µF,50V
	C3545	NCF21AZ-225X	CAPACITOR	2.2µF,10V
	C3546	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3547	NCBA1HK-122W	CAPACITOR	0.0012µF,50V
	C3548	NCB21AK-105X	CAPACITOR	1µF,10V
	C3549	NCBA1HK-102W	CAPACITOR	0.001µF,50V
	C3550	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3551	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3552	NDCA1HJ-470W	CAPACITOR	47pF,50V
	C3553	NCBA1HK-681W	CAPACITOR	680pF,50V
	C3554	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C3555	NCBA1HK-152W	CAPACITOR	0.0015µF,50V
	C3556	NDCA1HJ-330W	CAPACITOR	33pF,50V
	C3557	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C3558	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3559	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3560	NBE40JM-476X	T CAPACITOR	47µF,6.3V
	C3561	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3562	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3563	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3564	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3565	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3566	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3567	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3568	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3569	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C3570	NCBA1HK-152W	CAPACITOR	0.0015µF,50V
	C3571	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C3572	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3573	NDCA1HJ-220W	CAPACITOR	22pF,50V
	C3574	NDCA1HJ-330W	CAPACITOR	33pF,50V
	C3575	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3576	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C3577	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C3579	NBM90JM-106X	T CAPACITOR	10µF,6.3V
	C3580	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C3581	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3582	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3583	NBE40JM-476X	T CAPACITOR	47µF,6.3V
	C3584	NBE40JM-476X	T CAPACITOR	47µF,6.3V
	C3585	NDCA1HJ-220W	CAPACITOR	22pF,50V
	C3586	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3701	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C3702	NBE20JM-226X	T CAPACITOR	22µF,6.3V
	C3705	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3706	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C3707	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3708	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3709	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C3710	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C3711	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3712	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C3713	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C3714	NDCA1HJ-330W	CAPACITOR	33pF,50V
	C3715	NDCA1HJ-330W	CAPACITOR	33pF,50V
	C3716	NDCA1HJ-220W	CAPACITOR	22pF,50V
	C3717	NBE60GM-337X	T CAPACITOR	330µF,4.0V
	C3718	NCB21AK-105X	CAPACITOR	1µF,10V
	C3719	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C3720	NCB21AK-105X	CAPACITOR	1µF,10V
	L1401	NQL045K-100X	COIL	10µH
	L2101	NQL144K-100X	COIL	10µH
	L2201	NQL315K-100X	COIL	10µH
	L2401	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	L2402	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	L2403	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	L2404	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	L2601	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	L2602	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	L2603	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	L2701	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	L2702	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	L3001	NQR0265-001X	FERRITE BEAD	
	L3002	NQR0265-001X	FERRITE BEAD	
	L3005	NQR0265-001X	FERRITE BEAD	
	L3006	NQR0265-001X	FERRITE BEAD	
	L3007	NQR0006-001X	FERRITE BEAD	
	L3010	NQL302N-100X	COIL	10µH
	L3201	NQR0265-001X	FERRITE BEAD	
	L3202	NQL085J-120X	COIL	12µH
	L3204	NQR0265-001X	FERRITE BEAD	
	L3207	NQR0006-001X	FERRITE BEAD	
	L3208	NQR0006-001X	FERRITE BEAD	
	L3209	NQR0265-001X	FERRITE BEAD	
	L3501	NQR0006-001X	FERRITE BEAD	
	L3503	NQR0006-001X	FERRITE BEAD	
	L3505	NQR0265-001X	FERRITE BEAD	
	L3506	NQR0006-001X	FERRITE BEAD	
	L3507	NQR0006-001X	FERRITE BEAD	
	L3508	NQL085J-220X	COIL	22µH
	L3509	NQL085J-220X	COIL	22µH
	L3510	NQR0006-001X	FERRITE BEAD	
	L3511	NQL315K-470X	COIL	47µH
	L3512	NQL315K-470X	COIL	47µH
	L3701	NQL302N-100X	COIL	10µH
	L3702	NQL302N-100X	COIL	10µH
	X1401	NAX0218-001X	CRYSTAL RESONATOR	
	X3001	NAX0206-001X	CRYSTAL RESONATOR	
	HS1	LY41437-001A	HEAT SINK(PWB)	
	WR1	QAL0152-001	FPC	
	CN101	QGF0505F1-08X	FPC CONNECTOR	
	CN102	QGB0505L1-C0X	CONNECTOR	
	CN103	QGF0505F2-06X	FPC CONNECTOR	
	CN104	QGB0510M1-40X	CONNECTOR	
	CN105	QGF0505F1-13X	FPC CONNECTOR	
	CN106	QGF0301F1-57X	FPC CONNECTOR	
	CN107	QGA1201F2-03X	CONNECTOR	
	CN108	QGB0801K2-18X	CONNECTOR	
	SD1	LY31059-001A	SHIELD CASE	
	OT1	LY30016-0P2A	SPACER-A	

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MAIN2 BOARD ASSEMBLY <02>

#	REF No.	PART No.	PART NAME. DESCRIPTION	
	PW	YB10238C-01	MAIN2 BOARD ASSY	
	IC1001	MN1021617FE1	IC	
		or MN102F1617HL-42	IC	
	IC1002	UPD6461GS-938-X	IC	
	IC1003	X25097M8-2.7-X	IC	
	IC1004	RS5C314	IC	
	IC1005	TC7S32FU	IC(DIGITAL)	
	IC1006	TC7W04FU	IC(DIGITAL)	
	IC1007	TC7W32FU	IC(DIGITAL)	
	IC1008	TC7W08FU	IC(DIGITAL)	
	IC1009	BA6417F	IC	
	IC1010	TC7W32FU	IC(DIGITAL)	
	IC1101	TA75W01FU	IC	
	IC1201	MB88346BPFV	IC	
	IC4101	JCY0085	IC	
	IC4201	AD9200JST	IC	
	IC4202	AD9200JST	IC	
	IC4203	TK11331BMC	IC	
	IC4301	YQ44805A	CSP IC ASSY	
	IC4302	MSM5424331TS-AK	IC	
	IC4802	TA75W01FU	IC	
	IC4803	TA75W01FU	IC	
	IC4804	NJM3414AV	IC	
	IC4805	MM6564XFBE	IC	
	IC4806	TC7W00FU	IC(DIGITAL)	
	IC4851	UPD16835G3	IC	
	IC5002	JCY0110	IC	
	IC5101	CXA2096N	IC	
	IC5102	CXA2096N	IC	
	IC6601	TC7W74FU	IC(DIGITAL)	
	Q1001	2SC4617/RS/-X	TRANSISTOR	
	Q1002	DTA144EE	TRANSISTOR	
	Q4803	2SC4655/BC/-X	TRANSISTOR	
	Q4851	2SC4617/RS/-X	TRANSISTOR	
	Q4852	2SC4617/RS/-X	TRANSISTOR	
	Q6605	UN9211J	TRANSISTOR	
		or DTC114EE	TRANSISTOR	
	Q6607	UN911HJ	TRANSISTOR	
	Q6609	DTC144EE	TRANSISTOR	
	Q6610	UMS1N	PAIR TRANSISTOR	
	Q6611	2SC4617/RS/-X	TRANSISTOR	
	Q6612	UMS1N	PAIR TRANSISTOR	
	Q6613	2SA1774/RS/-X	TRANSISTOR	
	Q6614	XP1211	TRANSISTOR	
	D1001	DAP222	DIODE	
	D1002	SB007W03Q	SB DIODE	
	D4101	1SS355	DIODE	
	D4102	1SS355	DIODE	
	D5004	MA732	SB DIODE	
	R1001	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
	R1003	NRSA6AJ-104W	MG RESISTOR	100kΩ,1/16W
	R1004	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
	R1005	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
	R1006	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
	R1007	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
	R1008	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
	R1009	NRSA6AJ-471W	MG RESISTOR	470Ω,1/16W

#	REF No.	PART No.	PART NAME. DESCRIPTION	
	10	NRSA6AJ-102W	MG RESISTOR	1kΩ.1/16W
	11	NRSA6AJ-102W	MG RESISTOR	1kΩ.1/16W
	12	NRSA6AJ-102W	MG RESISTOR	1kΩ.1/16W
	13	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
	14	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
	15	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
	16	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
	17	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
	18	NRSA6AJ-102W	MG RESISTOR	1kΩ.1/16W
	19	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	20	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	21	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	22	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	24	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	25	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	26	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	27	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	28	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	30	NRSA6AJ-102W	MG RESISTOR	1kΩ.1/16W
	31	NRSA6AJ-223W	MG RESISTOR	22kΩ.1/16W
	32	NRSA6AJ-224W	MG RESISTOR	220kΩ.1/16W
	033	NRSA6AJ-334W	MG RESISTOR	330kΩ.1/16W
	034	NRSA6AJ-223W	MG RESISTOR	22kΩ.1/16W
	035	NRSA6AJ-104W	MG RESISTOR	100kΩ.1/16W
	036	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	037	NRSA6AJ-103W	MG RESISTOR	10kΩ.1/16W
	038	NRSA6AJ-103W	MG RESISTOR	10kΩ.1/16W
	039	NRSA6AJ-102W	MG RESISTOR	1kΩ.1/16W
	040	NRSA6AJ-103W	MG RESISTOR	10kΩ.1/16W
	041	NRSA6AJ-333W	MG RESISTOR	33kΩ.1/16W
	042	NRSA6AJ-103W	MG RESISTOR	10kΩ.1/16W
	043	NRSA6AJ-472W	MG RESISTOR	4.7kΩ.1/16W
	044	NRSA6AJ-472W	MG RESISTOR	4.7kΩ.1/16W
	045	NRSA6AJ-222W	MG RESISTOR	2.2kΩ.1/16W
	046	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	1047	NRSA6AJ-473W	MG RESISTOR	47kΩ.1/16W
	048	NRSA6AJ-104W	MG RESISTOR	100kΩ.1/16W
	049	NRSA6AJ-104W	MG RESISTOR	100kΩ.1/16W
	050	NRSA6AJ-104W	MG RESISTOR	100kΩ.1/16W
	051	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	052	NRSA6AJ-103W	MG RESISTOR	10kΩ.1 16W
	053	NRSA6AJ-222W	MG RESISTOR	2.2kΩ.1/16W
	054	NRSA6AJ-104W	MG RESISTOR	100kΩ.1/16W
	055	NRSA6AJ-101W	MG RESISTOR	100Ω.1/16W
	056	NRSA6AJ-101W	MG RESISTOR	100Ω.1/16W
	057	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	059	NRSA6AJ-102W	MG RESISTOR	1kΩ.1/16W
	061	NRSA63J-681X	MG RESISTOR	680Ω.1/16W
	062	NRSA63J-222X	MG RESISTOR	2.2kΩ.1/16W
	063	NRSA63J-0R0X	MG RESISTOR	0Ω.1/16W
	064	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	067	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	068	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	069	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	1070	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	1071	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	1101	NRSA6AJ-103W	MG RESISTOR	10kΩ.1/16W
	1102	NRSA6AJ-472W	MG RESISTOR	4.7kΩ.1/16W
	1103	NRSA6AJ-472W	MG RESISTOR	4.7kΩ.1/16W
	[illegible]	NRSA6AJ-105W	MG RESISTOR	1MΩ.1/16W
	105	NRSA6AJ-103W	MG RESISTOR	10kΩ.1/16W
	R1106	NRSA6AJ-105W	MG RESISTOR	1MΩ.1/16W
	R1107	NRSA6AJ-103W	MG RESISTOR	10kΩ.1/16W
	R1108	NRSA6AJ-472W	MG RESISTOR	4.7kΩ.1/16W
	R1109	NRSA6AJ-103W	MG RESISTOR	10kΩ.1/16W
	R1110	NRSA6AJ-103W	MG RESISTOR	10kΩ.1/16W
	R1111	NRSA6AJ-153W	MG RESISTOR	15kΩ.1/16W
	R1112	NRSA6AJ-473W	MG RESISTOR	47kΩ.1/16W
	R1113	NRSA6AJ-473W	MG RESISTOR	47kΩ.1/16W
	R1114	NRSA6AJ-473W	MG RESISTOR	47kΩ.1/16W
	R1115	NRSA6AJ-103W	MG RESISTOR	10kΩ.1/16W
	R1201	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R1202	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R1203	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R1204	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4101	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4102	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4103	NRSA6AJ-104W	MG RESISTOR	100kΩ.1/16W
	R4104	NRSA6AJ-105W	MG RESISTOR	1MΩ.1/16W
	R4106	NRSA6AJ-102W	MG RESISTOR	1kΩ.1/16W
	R4110	NRSA6AJ-102W	MG RESISTOR	1kΩ.1/16W
	R4111	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4112	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4113	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4114	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4201	NRSA6AJ-221W	MG RESISTOR	220Ω.1/16W
	R4202	NRSA6AJ-221W	MG RESISTOR	220Ω.1/16W
	R4203	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4204	NRSA6AJ-221W	MG RESISTOR	220Ω.1/16W
	R4205	NRSA6AJ-221W	MG RESISTOR	220Ω.1/16W
	R4206	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4207	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4210	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4211	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4213	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4215	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4216	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4217	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4218	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4219	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4301	NRSA6AJ-102W	MG RESISTOR	1kΩ.1/16W
	R4303	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4304	NRSA6AJ-102W	MG RESISTOR	1kΩ.1/16W
	R4305	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4306	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4307	NRSA6AJ-102W	MG RESISTOR	1kΩ.1/16W
	R4308	NRSA6AJ-331W	MG RESISTOR	330Ω.1/16W
	R4309	NRSA6AJ-562W	MG RESISTOR	5.6kΩ.1/16W
	R4310	NRSA6AJ-153W	MG RESISTOR	15kΩ.1/16W
	R4311	NRSA6AJ-103W	MG RESISTOR	10kΩ.1/16W
	R4312	NRSA63J-100X	MG RESISTOR	10Ω.1/16W
	R4313	NRSA6AJ-101W	MG RESISTOR	100Ω.1/16W
	R4314	NRSA6AJ-100W	MG RESISTOR	10Ω.1/16W
	R4315	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4316	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4317	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4318	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4319	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4320	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4323	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4325	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4326	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4327	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4328	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4329	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4330	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4331	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4332	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4333	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4335	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4336	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4337	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4338	NRSA63J-0R0X	MG RESISTOR	0Ω.1/16W
	R4339	NRSA63J-0R0X	MG RESISTOR	0Ω.1/16W
	R4801	NRSA6AJ-104W	MG RESISTOR	100kΩ.1/16W
	R4802	NRSA6AJ-103W	MG RESISTOR	10kΩ.1/16W
	R4803	NRSA6AJ-103W	MG RESISTOR	10kΩ.1/16W
	R4804	NRSA63J-151X	MG RESISTOR	150Ω.1/16W
	R4805	NRSA6AJ-103W	MG RESISTOR	10kΩ.1/16W
	R4806	NRSA63J-823X	MG RESISTOR	82kΩ.1/16W
	R4807	NRSA63J-683X	MG RESISTOR	68kΩ.1/16W
	R4808	NRSA6AJ-243W	MG RESISTOR	24kΩ.1/16W
	R4809	NRSA63J-681X	MG RESISTOR	680Ω.1/16W
	R4810	NRSA6AJ-103W	MG RESISTOR	10kΩ.1/16W
	R4811	NRSA63J-105X	MG RESISTOR	1MΩ.1/16W
	R4812	NRSA6AJ-153W	MG RESISTOR	15kΩ.1/16W
	R4814	NRSA6AJ-105W	MG RESISTOR	1MΩ.1/16W
	R4815	NRSA6AJ-472W	MG RESISTOR	4.7kΩ.1/16W
	R4816	NRSA6AJ-185W	MG RESISTOR	1.8MΩ.1/16W
	R4817	NRSA6AJ-564W	MG RESISTOR	560kΩ.1/16W
	R4818	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4819	NRSA6AJ-103W	MG RESISTOR	10kΩ.1/16W
	R4820	NRSA6AJ-104W	MG RESISTOR	100kΩ.1/16W
	R4821	NRSA6AJ-104W	MG RESISTOR	100kΩ.1/16W
	R4822	NRSA63J-333X	MG RESISTOR	33kΩ.1/16W
	R4823	NRSA6AJ-102W	MG RESISTOR	1kΩ.1/16W
	R4824	NRSA6AJ-472W	MG RESISTOR	4.7kΩ.1/16W
	R4825	NRSA6AJ-183W	MG RESISTOR	18kΩ.1/16W
	R4826	NRSA6AJ-333W	MG RESISTOR	33kΩ.1/16W
	R4827	NRSA6AJ-122W	MG RESISTOR	1.2kΩ.1/16W
	R4851	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4852	NRSA6AJ-221W	MG RESISTOR	220Ω.1/16W
	R4853	NRSA6AJ-221W	MG RESISTOR	220Ω.1/16W
	R4854	NRSA6AJ-202W	MG RESISTOR	2kΩ.1/16W
	R4855	NRSA6AJ-223W	MG RESISTOR	22kΩ.1/16W
	R4856	NRSA63J-6R8X	MG RESISTOR	6.8Ω.1/16W
	R4857	NRSA63J-6R8X	MG RESISTOR	6.8Ω.1/16W
	R4858	NRSA6AJ-333W	MG RESISTOR	33kΩ.1/16W
	R4859	NRSA6AJ-333W	MG RESISTOR	33kΩ.1/16W
	R4860	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4861	NRSA6AJ-104W	MG RESISTOR	100kΩ.1/16W
	R4862	NRSA63J-6R8X	MG RESISTOR	6.8Ω.1/16W
	R4863	NRSA63J-6R8X	MG RESISTOR	6.8Ω.1/16W
	R4864	NRSA6AJ-102W	MG RESISTOR	1kΩ.1/16W
	R4865	NRSA6AJ-102W	MG RESISTOR	1kΩ.1/16W
	R4866	NRSA6AJ-102W	MG RESISTOR	1kΩ.1/16W
	R4867	NRSA6AJ-102W	MG RESISTOR	1kΩ.1/16W
	R4868	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R4869	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R5001	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R5006	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R5007	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R5008	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R5010	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R5011	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R5013	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R5014	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R5015	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R5018	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R5019	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R5020	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R5021	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R5031	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R5032	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R5033	NRSA6AJ-102W	MG RESISTOR	1kΩ.1/16W
	R5034	NRSA6AJ-102W	MG RESISTOR	1kΩ.1/16W
	R5035	NRSA6AJ-102W	MG RESISTOR	1kΩ.1/16W
	R5101	NRSA6AJ-220W	MG RESISTOR	22Ω.1/16W
	R5102	NRSA6AJ-220W	MG RESISTOR	22Ω.1/16W
	R5103	NRSA6AJ-102W	MG RESISTOR	1kΩ.1/16W
	R5105	NRSA6AJ-102W	MG RESISTOR	1kΩ.1/16W
	R5106	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R5108	NRSA6AJ-102W	MG RESISTOR	1kΩ.1/16W
	R5110	NRSA6AJ-182W	MG RESISTOR	1.8kΩ.1/16W
	R5111	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R5113	NRSA6AJ-621W	MG RESISTOR	620Ω.1/16W
	R5114	NRSA6AJ-182W	MG RESISTOR	1.8kΩ.1/16W
	R5116	NRSA6AJ-182W	MG RESISTOR	1.8kΩ.1/16W
	R5119	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R5121	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R5122	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R5123	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R5134	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R5136	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R5137	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R5138	NRSA6AJ-0R0W	MG RESISTOR	0Ω.1/16W
	R6603	NRSA6AJ-822W	MG RESISTOR	8.2kΩ.1/16W
	R6609	NRVA6AD-683W	CMF RESISTOR	68kΩ.1/16W
	R6610	NRVA6AD-104W	CMF RESISTOR	100kΩ.1/16W
	R6612	NRSA6AJ-333W	MG RESISTOR	33kΩ.1/16W
	R6613	NRSA6AJ-335W	MG RESISTOR	3.3MΩ.1/16W
	R6617	NRSA6AJ-684W	MG RESISTOR	680kΩ.1/16W
	R6621	NRSA6AJ-184W	MG RESISTOR	180kΩ.1/16W
	R6622	NRVA6AD-823W	CMF RESISTOR	82kΩ.1/16W
	R6623	NRSA6AJ-473W	MG RESISTOR	47kΩ.1/16W
	R6625	NRSA6AJ-473W	MG RESISTOR	47kΩ.1/16W
	R6626	NRSA6AJ-474W	MG RESISTOR	470kΩ.1/16W
	RA1001	NRZ0034-102W	NETWORK RESISTOR	1kΩ
	RA1002	NRZ0034-102W	NETWORK RESISTOR	1kΩ
	RA1003	NRZ0034-104W	NETWORK RESISTOR	100kΩ
	RA1004	NRZ0034-104W	NETWORK RESISTOR	100kΩ
	RA1005	NRZ0034-102W	NETWORK RESISTOR	1kΩ
	RA1006	NRZ0034-102W	NETWORK RESISTOR	1kΩ
	RA4201	NRZ0034-221W	NETWORK RESISTOR	220Ω
	RA4202	NRZ0034-221W	NETWORK RESISTOR	220Ω
	RA4203	NRZ0034-221W	NETWORK RESISTOR	220Ω
	RA4204	NRZ0034-221W	NETWORK RESISTOR	220Ω
	RA4301	NRZ0034-221W	NETWORK RESISTOR	220Ω
	RA4302	NRZ0034-221W	NETWORK RESISTOR	220Ω
	RA4303	NRZ0034-221W	NETWORK RESISTOR	220Ω
	RA4304	NRZ0034-221W	NETWORK RESISTOR	220Ω
	RA4305	NRZ0034-221W	NETWORK RESISTOR	220Ω
	RA4306	NRZ0034-221W	NETWORK RESISTOR	220Ω
	RA4307	NRZ0034-221W	NETWORK RESISTOR	220Ω

#	REF No.	PART No.	PART NAME, DESCRIPTION	
	RA4308	NRZ0034-221W	NETWORK RESISTOR	220Ω
	RA4309	NRZ0034-221W	NETWORK RESISTOR	220Ω
	RA4310	NRZ0034-221W	NETWORK RESISTOR	220Ω
	C1003	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C1005	NDCA1HJ-330W	CAPACITOR	33pF,50V
	C1006	NDCA1HJ-270W	CAPACITOR	27pF,50V
	C1008	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C1009	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C1010	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C1011	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C1012	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C1013	NDCA1HJ-120W	CAPACITOR	12pF,50V
	C1015	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C1016	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C1017	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C1018	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C1020	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C1021	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C1022	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C1023	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C1024	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C1025	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C1026	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C1030	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C1031	NBE91CM-105X	T CAPACITOR	1µF,16V
	C1032	NBE20JM-226X	T CAPACITOR	22µF,6.3V
	C1033	NBE20JM-226X	T CAPACITOR	22µF,6.3V
	C1034	NBE21AM-106X	T CAPACITOR	10µF,10V
	C1101	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C1102	NCB31EK-223X	CAPACITOR	0.022µF,25V
	C1103	NCB31EK-223X	CAPACITOR	0.022µF,25V
	C1105	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C1106	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C1107	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C1108	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C1111	NBE91AM-335X	T CAPACITOR	3.3µF,10V
	C1112	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C1201	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C1202	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4102	NBP41CM-106X	T CAPACITOR	10µF,16V
	C4103	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4105	NBP71VM-106X	T CAPACITOR	10µF,35V
	C4106	NCFA1HZ-103W	CAPACITOR	0.01µF,50V
	C4107	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4108	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4109	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4110	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C4111	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4112	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4113	NCFA1HZ-103W	CAPACITOR	0.01µF,50V
	C4114	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4115	NCFA1HZ-103W	CAPACITOR	0.01µF,50V
	C4116	NCF31EZ-104X	CAPACITOR	0.1µF,25V
	C4117	NBP21VM-105X	T CAPACITOR	1µF,35V
	C4118	NCF31EZ-104X	CAPACITOR	0.1µF,25V
	C4119	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4120	NBM90JM-106X	T CAPACITOR	10µF,6.3V
	C4121	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4122	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4123	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4124	NBE71AM-107X	T CAPACITOR	100µF,10V
	C4125	NBE71AM-107X	T CAPACITOR	100µF,10V
	C4201	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4202	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C4203	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4204	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C4205	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4206	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C4207	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4208	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C4209	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4210	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4211	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4212	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4213	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4214	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C4215	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4216	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4217	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4218	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4219	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4220	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C4221	NBE40JM-476X	T CAPACITOR	47µF,6.3V
	C4222	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4223	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C4224	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4225	NBE40JM-476X	T CAPACITOR	47µF,6.3V
	C4230	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4231	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4232	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4233	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4234	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C4235	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C4301	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C4302	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4303	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C4304	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4305	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4306	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4307	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4308	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4309	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C4310	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4311	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4312	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C4313	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4314	NCF31AZ-105X	CAPACITOR	1µF,10V
	C4315	NCF31AZ-105X	CAPACITOR	1µF,10V
	C4316	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C4317	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C4318	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4319	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4320	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4321	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4322	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4323	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4324	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4325	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4326	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4327	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C4330	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4331	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4335	NDC31HK-101X	CAPACITOR	100pF,50V
	C4336	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4338	NDC31HK-101X	CAPACITOR	100pF,50V
	C4339	NDC31HK-101X	CAPACITOR	100pF,50V
	C4801	NBE21AM-106X	T CAPACITOR	10µF,10V
	C4802	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C4803	NBM90JM-106X	T CAPACITOR	10µF,6.3V
	C4804	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4805	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4806	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4808	NCF21CZ-105X	CAPACITOR	1µF,16V
	C4809	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4810	NCFA1HZ-103W	CAPACITOR	0.01µF,50V
	C4811	NCFA1HZ-103W	CAPACITOR	0.01µF,50V
	C4812	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4813	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4814	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4815	NDC31HJ-331X	CAPACITOR	330pF,50V
	C4818	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C4819	NCF21CZ-105X	CAPACITOR	1µF,16V
	C4821	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C4822	NDC31HJ-101X	CAPACITOR	100pF,50V
	C4851	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C4852	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4853	NBE91AM-335X	T CAPACITOR	3.3µF,10V
	C4854	NBE21AM-106X	T CAPACITOR	10µF,10V
	C4855	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C4858	NDCA1HJ-330W	CAPACITOR	33pF,50V
	C4859	NCBA1HK-102W	CAPACITOR	0.001µF,50V
	C4860	NCBA1HK-102W	CAPACITOR	0.001µF,50V
	C4861	NCBA1HK-102W	CAPACITOR	0.001µF,50V
	C4862	NCBA1HK-102W	CAPACITOR	0.001µF,50V
	C4863	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C4864	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C4865	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C5009	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C5010	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C5011	NBE40JM-476X	T CAPACITOR	47µF,6.3V
	C5012	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C5013	NBE40JM-476X	T CAPACITOR	47µF,6.3V
	C5014	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C5028	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C5029	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C5030	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C5031	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C5032	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C5042	NCB20JK-225X	CAPACITOR	2.2µF,6.3V
	C5101	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C5102	NBE40JM-476X	T CAPACITOR	47µF,6.3V
	C5103	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C5104	NBE40JM-476X	T CAPACITOR	47µF,6.3V
	C5105	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C5106	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C5107	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C5108	NCF21CZ-105X	CAPACITOR	1µF,16V
	C5109	NCF21CZ-105X	CAPACITOR	1µF,16V
	C5110	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C5111	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C5112	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C5113	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C5114	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C5115	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C5116	NCF21CZ-105X	CAPACITOR	1µF,16V
	C5117	NCF21CZ-105X	CAPACITOR	1µF,16V
	C5118	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C5119	NBE90JM-106X	T CAPACITOR	10µF,6.3V
	C5120	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C5121	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C5122	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C5123	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C5124	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C5125	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C5126	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
	C5127	NBE40JM-476X	T CAPACITOR	47µF,6.3V
	C5128	NBE40JM-476X	T CAPACITOR	47µF,6.3V
	C6604	NBE20JM-106X	T CAPACITOR	10µF,6.3V
	C6605	NCFA1CZ-473W	CAPACITOR	0.047µF,16V
	C6609	NCB31EK-153X	CAPACITOR	0.015µF,25V
	C6610	NDCA1EJ-221W	CAPACITOR	220pF,25V
	C6611	NDCA1EJ-121W	CAPACITOR	120pF,25V
	C6612	NCBA1HK-102W	CAPACITOR	0.001µF,50V
	C6613	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	L1001	NQL315K-220X	COIL	22µH
	L1002	NQL315K-220X	COIL	22µH
	L1003	NQL315K-220X	COIL	22µH
	L1004	NQL315K-100X	COIL	10µH
	L1005	NQL184J-390X	COIL	39µH
	L1201	NQL302N-100X	COIL	10µH
	L4101	NQL045K-100X	COIL	10µH
	L4102	NQL315K-470X	COIL	47µH
	L4103	NQL045K-100X	COIL	10µH
	L4104	NQL045K-100X	COIL	10µH
	L4201	NQL045K-100X	COIL	10µH
	L4202	NQR0265-001X	FERRITE BEAD	
	L4203	NQL045K-100X	COIL	10µH
	L4204	NQR0265-001X	FERRITE BEAD	
	L4301	NQR0265-001X	FERRITE BEAD	
	L4302	NQR0265-001X	FERRITE BEAD	
	L4303	NQL045K-100X	COIL	10µH
	L4304	NQR0265-001X	FERRITE BEAD	
	L4801	NQL045K-100X	COIL	10µH
	L4802	NQL045K-100X	COIL	10µH
	L4803	NQR0265-001X	FERRITE BEAD	
	L4804	NQR0265-001X	FERRITE BEAD	
	L4851	NQR0129-002X	FERRITE BEAD	
	L4852	NQL165K-100X	COIL	10µH
	L4853	NQL045K-100X	COIL	10µH
	L5005	NQL045K-100X	COIL	10µH
	L5006	NQL045K-100X	COIL	10µH
	L5007	NQR0129-002X	FERRITE BEAD	
	L5009	NQR0129-002X	FERRITE BEAD	
	L5101	NQL045K-100X	COIL	10µH
	L5102	NQL045K-100X	COIL	10µH
	L6604	NQL302N-100X	COIL	10µH
	X1001	NAX0200-001X	C OSCILLATOR	
	X1002	NAX0282-001X	CRYSTAL RESONATOR	
	X5001	NAX0190-001X	CXO	
	CN201	QGB0502M1-C0X	CONNECTOR	
	CN202	QGB0510M1-30X	CONNECTOR	
	CN203	QGF0505F2-22X	FPC CONNECTOR	
	CN204	QGB0505M1-A0X	CONNECTOR	
	CN205	QGF0507F1-22X	FPC CONNECTOR	

#	REF No.	PART No.	PART NAME, DESCRIPTION	
	CN206	QGF0501F1-51X	FPC CONNECTOR	
	CN207	QGF0505F2-08X	FPC CONNECTOR	
	CN208	QGF0507F1-15X	FPC CONNECTOR	
	CN210	*QGA1001F1-03X*	*CONNECTOR*	
	SD1	LY41287-001B	SHIELD PLATE2	
	OT1	LY30016-0P3A	SPACER-A	

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REG BOARD ASSEMBLY <03>

#	REF No.	PART No.	PART NAME, DESCRIPTION	
	PW	YB20853A-01	REG BOARD ASSY	
	IC6001	S-80842ANNP-W	IC	
	IC6002	S-81235SG-QI-X	IC	
	IC6003	S-81330HG-KB-X	IC	
	IC6004	S-80823ANNP-W	IC	
	IC6101	FA3621F	IC	
	IC6102	BA00ASFP	IC	
	Q6001	2SJ501	MOS FET	
	Q6002	2SK1830	MOS FET	
	Q6003	2SK1830	MOS FET	
	Q6004	DTC144EE	TRANSISTOR	
	Q6005	2SJ501	MOS FET	
	Q6006	2SA1774 RS/-X	TRANSISTOR	
	Q6007	DTC144EE	TRANSISTOR	
	Q6008	2SJ347	MOS FET	
	Q6101	CPH6302	MOS FET	
	Q6102	CPH6302	MOS FET	
	Q6103	CPH6302	MOS FET	
	Q6104	CPH6302	MOS FET	
	Q6105	CPH6302	MOS FET	
	Q6106	CPH6302	MOS FET	
	Q6107	2SA1774 QR/-X	TRANSISTOR	
	Q6108	2SC4617 QR/-X	TRANSISTOR	
	Q6109	2SC4081 S/-X	TRANSISTOR	
	D6101	SFPB-72-W	SB DIODE	
	D6102	SFPB-72-W	SB DIODE	
	D6103	SFPB-72-W	SB DIODE	
	D6104	DWA010	SB DIODE	
	D6105	SB05-05CP-X	SB DIODE	
	D6106	SFPB-72-W	SB DIODE	
	D6107	SFPB-72-W	SB DIODE	
	D6108	1SS355	DIODE	
	D6109	1SS355	DIODE	
⚠	D6201	MA716	DIODE	
	R6001	NRSA6AJ-104W	MG RESISTOR	100kΩ,1/16W
	R6002	NRVA6AD-183W	CMF RESISTOR	18kΩ,1/16W
	R6003	NRSA6AJ-104W	MG RESISTOR	100kΩ,1/16W
	R6004	NRSA6AJ-102W	MG RESISTOR	1kΩ,1/16W
	R6005	NRVA6AD-104W	CMF RESISTOR	100kΩ,1/16W
	R6007	NRSA6AJ-104W	MG RESISTOR	100kΩ,1/16W
	R6008	NRSA6AJ-222W	MG RESISTOR	2.2kΩ,1/16W
	R6009	NRSA6AJ-104W	MG RESISTOR	100kΩ,1/16W
	R6010	NRSA6AJ-104W	MG RESISTOR	100kΩ,1/16W
	R6011	NRVA6AD-473W	CMF RESISTOR	47kΩ,1/16W
	R6012	NRVA6AD-823W	CMF RESISTOR	82kΩ,1/16W
	R6013	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
	R6015	NRSA6AJ-104W	MG RESISTOR	100kΩ,1/16W
	R6016	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
	R6017	NRSA6AJ-562W	MG RESISTOR	5.6kΩ,1/16W
	R6018	NRSA6AJ-224W	MG RESISTOR	220kΩ,1/16W
	R6101	NRVA6AD-622W	CMF RESISTOR	6.2kΩ,1/16W
	R6102	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
	R6103	NRSA6AJ-223W	MG RESISTOR	22kΩ,1/16W
	R6104	NRSA6AJ-223W	MG RESISTOR	22kΩ,1/16W
	R6105	NRSA6AJ-154W	MG RESISTOR	150kΩ,1/16W
	R6106	NRVA63D-114X	CMF RESISTOR	110kΩ,1/16W
	R6107	NRVA6AD-104W	CMF RESISTOR	100kΩ,1/16W
	R6108	NRSA6AJ-154W	MG RESISTOR	150kΩ,1/16W
	R6109	NRSA6AJ-682W	MG RESISTOR	6.8kΩ,1/16W
	R6110	NRVA6AD-133W	CMF RESISTOR	13kΩ,1/16W
	R6111	NRVA6AD-363W	CMF RESISTOR	36kΩ,1/16W
	R6112	NRSA6AJ-4R7W	MG RESISTOR	4.7Ω,1/16W
	R6113	NRVA6AD-363W	CMF RESISTOR	36kΩ,1/16W
	R6114	NRVA6AD-562W	CMF RESISTOR	5.6kΩ,1/16W
	R6115	NRSA6AJ-682W	MG RESISTOR	6.8kΩ,1/16W
	R6116	NRSA6AJ-223W	MG RESISTOR	22kΩ,1/16W
	R6117	NRSA6AJ-823W	MG RESISTOR	82kΩ,1/16W
	R6118	NRVA6AD-473W	CMF RESISTOR	47kΩ,1/16W
	R6119	NRVA6AD-562W	CMF RESISTOR	5.6kΩ,1/16W
	R6120	NRSA6AJ-822W	MG RESISTOR	8.2kΩ,1/16W
	R6121	NRSA6AJ-222W	MG RESISTOR	2.2kΩ,1/16W
	R6122	NRSA6AJ-4R7W	MG RESISTOR	4.7Ω,1/16W
	R6123	NRSA6AJ-4R7W	MG RESISTOR	4.7Ω,1/16W
	R6124	NRVA6AD-393W	CMF RESISTOR	39kΩ,1/16W
	R6125	NRVA6AD-103W	CMF RESISTOR	10kΩ,1/16W
	R6126	NRSA6AJ-4R7W	MG RESISTOR	4.7Ω,1/16W
	R6127	NRVA6AD-182W	CMF RESISTOR	1.8kΩ,1/16W
	R6128	NRVA6AD-273W	CMF RESISTOR	27kΩ,1/16W
	R6131	NRSA6AJ-391W	MG RESISTOR	390Ω,1/16W
	R6134	NRVA6AD-133W	CMF RESISTOR	13kΩ,1/16W
	R6135	NRVA6AD-103W	CMF RESISTOR	10kΩ,1/16W
	R6136	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
	R6137	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
	R6138	NRSA6AJ-472W	MG RESISTOR	4.7kΩ,1/16W
	R6139	NRSA6AJ-4R7W	MG RESISTOR	4.7Ω,1/16W
	R6140	NRVA6AD-223W	CMF RESISTOR	22kΩ,1/16W
	R6141	NRVA6AD-113W	CMF RESISTOR	11kΩ,1/16W
	R6143	NRSA6AJ-4R7W	MG RESISTOR	4.7Ω,1/16W
	R6144	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
	R6145	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
	R6146	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
	R6147	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
	R6148	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
	R6153	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
⚠	R6201	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R6202	NRSA63J-330X	MG RESISTOR	33Ω,1/16W
	C6001	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C6002	NCB31EK-103X	CAPACITOR	0.01µF,25V
	C6003	NBP41CM-106X	T CAPACITOR	10µF,16V
	C6004	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C6005	NBE20JM-226X	T CAPACITOR	22µF,6.3V
	C6006	NBP41CM-106X	T CAPACITOR	10µF,16V
	C6007	NCF21CZ-105X	CAPACITOR	1µF,16V
	C6008	PECA1173	T CAPACITOR	100µF,4V
	C6009	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C6010	NCB31EK-103X	CAPACITOR	0.01µF,25V
	C6101	NCBA1HK-391W	CAPACITOR	390pF,50V
	C6102	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C6103	NCBA1CK-103W	CAPACITOR	0.01µF,16V
	C6105	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C6106	NCB21AK-105X	CAPACITOR	1µF,10V
	C6107	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C6108	NCB31HK-562X	CAPACITOR	0.0056µF,50V
	C6109	NCB31EK-103X	CAPACITOR	0.01µF,25V
	C6110	NCB31EK-103X	CAPACITOR	0.01µF,25V
	C6111	NCB31EK-103X	CAPACITOR	0.01µF,25V
	C6112	NCB31AK-224X	CAPACITOR	0.22µF,10V
	C6113	NCB31AK-224X	CAPACITOR	0.22µF,10V
	C6115	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C6116	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C6117	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C6118	NCF21CZ-105X	CAPACITOR	1µF,16V
	C6119	NBP41CM-106X	T CAPACITOR	10µF,16V
	C6120	NCB21CK-224X	CAPACITOR	0.22µF,16V
	C6121	NCB21CK-224X	CAPACITOR	0.22µF,16V
	C6122	NCB21AK-105X	CAPACITOR	1µF,10V
	C6123	NBE21AM-106X	T CAPACITOR	10µF,10V
	C6124	NCB21AK-105X	CAPACITOR	1µF,10V
	C6125	NCB11AK-225X	CAPACITOR	2.2µF,10V
	C6126	NCB21AK-105X	CAPACITOR	1µF,10V
	C6127	NBE41AM-226X	T CAPACITOR	22µF,10V
	C6128	NCB21AK-105X	CAPACITOR	1µF,10V
	C6129	NBG41AM-106X	T CAPACITOR	10µF,10V
	C6130	NBG41AM-106X	T CAPACITOR	10µF,10V
	C6131	NCB11AK-475X	CAPACITOR	4.7µF,10V
	C6132	NCB11AK-225X	CAPACITOR	2.2µF,10V
	C6134	NCBA1HK-471W	CAPACITOR	470pF,50V
	C6135	NCB20JK-225X	CAPACITOR	2.2µF,6.3V
	C6137	NCB11CK-105X	CAPACITOR	1µF,16V
	C6138	NCB11CK-105X	CAPACITOR	1µF,16V
	C6139	NBP51EM-106X	T CAPACITOR	10µF,25V
	C6140	NBP21DM-475X	T CAPACITOR	4.7µF,20V
	C6141	NBE41AM-226X	T CAPACITOR	22µF,10V
	C6142	NCB21AK-105X	CAPACITOR	1µF,10V
	C6144	NCB21AK-105X	CAPACITOR	1µF,10V
	C6145	NCB11CK-105X	CAPACITOR	1µF,16V
	C6146	NCB21AK-105X	CAPACITOR	1µF,10V
	C6147	NCBA1HK-152W	CAPACITOR	0.0015µF,50V
	C6148	NCB21AK-105X	CAPACITOR	1µF,10V
	C6149	NDCA1HJ-330W	CAPACITOR	33pF,50V
	C6150	NDCA1HJ-330W	CAPACITOR	33pF,50V
	C6151	NCB21AK-105X	CAPACITOR	1µF,10V
	C6153	NCB11CK-105X	CAPACITOR	1µF,16V
	C6155	NCF21CZ-105X	CAPACITOR	1µF,16V
	C6156	NCB20JK-225X	CAPACITOR	2.2µF,6.3V
	C6157	NCB20JK-225X	CAPACITOR	2.2µF,6.3V
	C6159	NCBA1HK-221W	CAPACITOR	220pF,50V
	C6160	NCB11CK-105X	CAPACITOR	1µF,16V
	C6161	NCB21AK-105X	CAPACITOR	1µF,10V
	C6162	NCB21AK-105X	CAPACITOR	1µF,10V
	C6163	NCB21AK-105X	CAPACITOR	1µF,10V
	C6164	NCB20JK-225X	CAPACITOR	2.2µF,6.3V
	C6165	NCB20JK-225X	CAPACITOR	2.2µF,6.3V
	C6168	NCB21AK-105X	CAPACITOR	1µF,10V
	C6169	NDCA1HJ-820W	CAPACITOR	82pF,50V
	L6001	NQL315K-220X	COIL	22µH
	L6101	NQL32CM-220X	COIL	22µH
	L6102	NQL32CM-220X	COIL	22µH
	L6103	NQL32CM-100X	COIL	10µH
	L6104	NQL32CM-100X	COIL	10µH
	L6105	NQL044K-100X	COIL	10µH
	L6106	NQL315K-100X	COIL	10µH
	L6107	NQL315K-100X	COIL	10µH
	L6108	NQL315K-100X	COIL	10µH
	L6109	NQL044K-470X	COIL	47µH
	L6110	NQL32CM-100X	COIL	10µH
	L6111	NQL32CM-100X	COIL	10µH
	L6112	NQL32CM-100X	COIL	10µH
	L6113	NQL35BK-100X	COIL	10µH
	L6114	NQL32CM-100X	COIL	10µH
	L6115	NQL315K-100X	COIL	10µH
	L6116	NQL32CM-100X	COIL	10µH
	L6117	NQL32CM-100X	COIL	10µH
	L6118	NQL044K-100X	COIL	10µH
	L6119	NQL32CM-100X	COIL	10µH
	T6101	NQS0021-001X	SW TRANSF	
	CN301	QGB0502L2-A0X	CONNECTOR	
	CN302	QGA1205F1-05X	CONNECTOR	
	CN303	QGA1205F1-02X	CONNECTOR	
⚠	F6101	NMFZ006-2R0X-K	FUSE	T2.0A
⚠	F6102	NMFZ006-2R0X-K	FUSE	T2.0A
⚠	F6103	NMFZ006-R50X-K	FUSE	T0.5A
⚠	F6104	NMFZ005-R125XJ1	FUSE	T0.12
⚠	F6105	NMFZ006-R50X-K	FUSE	T0.5A
⚠	F6106	NMFZ006-2R0X-K	FUSE	T2.0A
⚠	BT301	QAB0009-001	LI BATTERY	
	SD1	LY41288-001C	SHIELD PLATE	

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MDA BOARD ASSEMBLY <04>

#	REF No.	PART No.	PART NAME, DESCRIPTION	
	PW	YB20842A-03	MDA BOARD ASSY	
	IC1601	BA6865KV	IC	
	IC1602	BA6254FS	TR ARRAY	
	IC1603	BA6254FS	TR ARRAY	
	Q1601	UMC3N	TRANSISTOR	
	D1602	DAP222	DIODE	
	D1603	DAP222	DIODE	
	D1604	DAP222	DIODE	
	R1601	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
	R1602	NRSA63J-124X	MG RESISTOR	120kΩ,1/16W
	R1603	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
	R1604	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R1605	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
	R1606	NRV142F-R22X	CMF RESISTOR	0.22Ω,1/4W
	R1609	NRS12BK-R68W	MG RESISTOR	0.68Ω,1/2W
	R1610	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R1611	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R1612	NRSA63J-274X	MG RESISTOR	270kΩ,1/16W
	R1613	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
	R1614	NRSA63J-154X	MG RESISTOR	150kΩ,1/16W
	R1615	NRSA63J-474X	MG RESISTOR	470kΩ,1/16W
	R1616	NRVA63D-202X	CMF RESISTOR	2kΩ,1/16W
	R1617	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
	R1618	NRSA63J-203X	MG RESISTOR	20kΩ,1/16W
	R1619	NRSA63J-393X	MG RESISTOR	39kΩ,1/16W
	R1620	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R1621	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W

#	REF No.	PART No.	PART NAME, DESCRIPTION	
	R1622	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R1623	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R1625	NRSA63J-511X	MG RESISTOR	510Ω,1/16W
	R1626	NRSA63J-511X	MG RESISTOR	510Ω,1/16W
	R1627	NRSA63J-511X	MG RESISTOR	510Ω,1/16W
	R1628	NRSA63J-511X	MG RESISTOR	510Ω,1/16W
	R1629	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
	R1630	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R1631	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R1634	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R1635	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
	R1636	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R1637	NRSA63J-124X	MG RESISTOR	120kΩ,1/16W
	R1642	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	C1601	NCB31EK-103X	CAPACITOR	0.01μF,25V
	C1602	NBE21AM-106X	T CAPACITOR	10μF,10V
	C1603	NBE21AM-106X	T CAPACITOR	10μF,10V
	C1605	NCB31CK-104X	CAPACITOR	0.1μF,16V
	C1606	NCB31HK-152X	CAPACITOR	0.0015μF,50V
	C1607	NCB31EK-103X	CAPACITOR	0.01μF,25V
	C1608	NCB31EK-103X	CAPACITOR	0.01μF,25V
	C1609	NCB31EK-103X	CAPACITOR	0.01μF,25V
	C1610	NCB31EK-103X	CAPACITOR	0.01μF,25V
	C1611	NCB31EK-103X	CAPACITOR	0.01μF,25V
	C1612	NCB31EK-103X	CAPACITOR	0.01μF,25V
	C1613	NCB31EK-103X	CAPACITOR	0.01μF,25V
	C1614	NBP41CM-106X	T CAPACITOR	10μF,16V
	C1615	NCB31CK-104X	CAPACITOR	0.1μF,16V
	C1616	NCB31CK-104X	CAPACITOR	0.1μF,16V
	C1617	NCB31CK-104X	CAPACITOR	0.1μF,16V
	C1618	NCB31EK-223X	CAPACITOR	0.022μF,25V
	C1619	NCB31EK-223X	CAPACITOR	0.022μF,25V
	C1620	NCB31EK-223X	CAPACITOR	0.022μF,25V
	C1621	NCB21AK-105X	CAPACITOR	1μF,10V
	C1622	NCB31CK-104X	CAPACITOR	0.1μF,16V
	C1623	NCB31CK-104X	CAPACITOR	0.1μF,16V
	C1625	NCB31CK-104X	CAPACITOR	0.1μF,16V
	C1626	NCB31EK-223X	CAPACITOR	0.022μF,25V
	C1627	NCB31CK-473X	CAPACITOR	0.047μF,16V
	C1628	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C1632	NBE21AM-106X	T CAPACITOR	10μF,10V
	C1633	NCF21CZ-684X	CAPACITOR	0.68μF,16V
	C1635	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C1638	NCB21CK-224X	CAPACITOR	0.22μF,16V
	C1639	NCB21CK-224X	CAPACITOR	0.22μF,16V
	C1640	NCB21CK-224X	CAPACITOR	0.22μF,16V
	S1601	NSW0095-001X	DETECT SWITCH	
	CN401	QGF0507F1-15X	FPC CONNECTOR	
	CN402	QGF0505F2-18X	FPC CONNECTOR	
	CN403	QGF0505F2-11X	FPC CONNECTOR	
	CN404	QGF0505F2-06X	FPC CONNECTOR	
	CN405	QGB0510L1-40X	CONNECTOR	
	OT1	LY30016-0M2A	SPACER-A	

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STROBE BOARD ASSEMBLY <05>

#	REF No.	PART No.	PART NAME, DESCRIPTION	
	PW1	YB20844C1-01	STROBE BOARD ASSY	
	IC1801	NAL0006-001X	IR SENSOR UNIT	
	IC6502	TC7SET08FU	IC(DIGITAL)	
	Q1801	2SC4617/QRS/-X	TRANSISTOR	
	Q2801	2SD1979/S/-X	TRANSISTOR	
	Q6501	2SB1462J/RS/-X	TRANSISTOR	
	Q6502	UN9211J	TRANSISTOR	
		or DTC114EE	TRANSISTOR	
⚠	Q6503	2SB1124/ST/-X	TRANSISTOR	
⚠	Q6504	2SD1628/FG/-X	TRANSISTOR	
	Q6506	CT25ASJ-8-X	TRANSISTOR	
	D1801	SLA-380LT3F	LE DIODE	
	D2801	RD5.6S/BY/-X	ZENER DIODE	
	D6501	F1F16	DIODE	
	D6502	DA121	DIODE	
	D6503	F1SN4	DIODE	
	D6504	F1N4	DIODE	
	R1801	NRSA6AJ-391W	MG RESISTOR	390Ω,1/16W
	R1802	NRSA6AJ-470W	MG RESISTOR	47Ω,1/16W
	R1803	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
	R2801	NQR0251-004X	FERRITE BEAD	
	R2802	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R2803	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R2804	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R2805	NQR0251-004X	FERRITE BEAD	
	R2806	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
	R2807	NRSA6AJ-680W	MG RESISTOR	68Ω,1/16W
	R2808	NQR0251-004X	FERRITE BEAD	
	R2809	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
	R2810	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R2811	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
	R2812	NRSA6AJ-103W	MG RESISTOR	10kΩ,1/16W
	R2813	NRSA6AJ-183W	MG RESISTOR	18kΩ,1/16W
	R2814	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R6501	NRSA63J-5R6X	MG RESISTOR	5.6Ω,1/16W
	R6502	NRSA63J-4R7X	MG RESISTOR	4.7Ω,1/16W
	R6504	NRSA6AJ-471W	MG RESISTOR	470Ω,1/16W
	R6505	NRSA6AJ-222W	MG RESISTOR	2.2kΩ,1/16W
	R6506	NRSA6AJ-152W	MG RESISTOR	1.5kΩ,1/16W
	R6507	NRSA02J-106X	MG RESISTOR	10MΩ,1/10W
	R6508	NRVA63D-184X	CMF RESISTOR	180kΩ,1/16W
	R6511	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
	R6514	NRSA02J-105X	MG RESISTOR	1MΩ,1/10W
	R6515	NRS181J-220X	MG RESISTOR	22Ω,1/8W
	R6516	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
	R6519	NRSA02J-106X	MG RESISTOR	10MΩ,1/10W
	R6520	NRSA6AJ-330W	MG RESISTOR	33Ω,1/16W
	R6527	NRSA6AJ-391W	MG RESISTOR	390Ω,1/16W
	C1801	NBE90JM-106X	T CAPACITOR	10μF,6.3V
	C2801	NCB31HK-122X	CAPACITOR	0.0012μF,50V
	C2802	NFV41HJ-102X	MPPS CAPACITOR	0.001μF,50V
	C2803	NFV41HJ-272X	MPPS CAPACITOR	0.0027μF,50V
	C2804	NCB31HK-472X	CAPACITOR	0.0047μF,50V
	C2806	NCBA1HK-821W	CAPACITOR	820pF,50V
	C2807	NCBA1EK-472W	CAPACITOR	0.0047μF,25V
	C6501	NBE41AM-336X	T CAPACITOR	33μF,10V
	C6502	NBE41AM-226X	T CAPACITOR	22μF,10V
	C6503	NCBA1CK-103W	CAPACITOR	0.01μF,16V
	C6506	NCZ1008-333X	CAPACITOR	0.033μF
	C6507	NCZ1019-273X	CAPACITOR	0.027μF
	C6508	NCBA1CK-103W	CAPACITOR	0.01μF,16V
	C6512	QEZ0447-506	E CAPACITOR	50μF,300V
	C6515	NCZ1019-273X	CAPACITOR	0.027μF
	L2801	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	L2802	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	L2803	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	L2804	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
⚠	L6501	NQS0015-002	SW TRANSF	
	L6502	NQL302N-100X	COIL	10μH
	L6503	NQL044K-470X	COIL	47μH
	J501	QNS0078-001	3.5 JACK	
	J502	QNS0005-001	3.5 JACK	
	CN501	QGF0505F2-13X	FPC CONNECTOR	
	CN502	QGF0505F2-22X	FPC CONNECTOR	
	UN1	LY30732-002A	STROBE ASSY	
	OT1	LY30016-0K7A	SPACER-A	
	OT2	LY30016-0K6A	SPACER-A	

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JA/D-IF BOARD ASSEMBLY <06>

#	REF No.	PART No.	PART NAME, DESCRIPTION	
	PW	YB10239B-02	JA/D-IF BOARD ASSY	
	IC8001	TSB13LV11GGB	IC(DIGITAL)	
	R3751	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R3752	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R3753	NRSA02J-680X	MG RESISTOR	68Ω,1/10W
	R3754	NRSA02J-680X	MG RESISTOR	68Ω,1/10W
	R3755	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R3758	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
	R3759	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
	R3760	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
	R8001	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R8002	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R8003	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R8004	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R8005	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R8006	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R8007	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R8008	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R8009	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R8010	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R8011	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R8012	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R8013	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R8014	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R8015	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R8016	NRSA63J-270X	MG RESISTOR	27Ω,1/16W
	R8017	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R8018	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R8019	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R8020	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R8021	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R8022	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R8023	NRSA63J-394X	MG RESISTOR	390kΩ,1/16W
	R8024	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
	R8025	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
	R8026	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R8027	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R8028	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R8029	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R8030	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R8031	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R8032	NRVA63D-512X	CMF RESISTOR	5.1kΩ,1/16W
	R8033	NRVA63D-560X	CMF RESISTOR	56Ω,1/16W
	R8034	NRVA63D-560X	CMF RESISTOR	56Ω,1/16W
	R8035	NRVA63D-560X	CMF RESISTOR	56Ω,1/16W
	R8036	NRVA63D-560X	CMF RESISTOR	56Ω,1/16W
	R8041	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R8042	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	RA8001	NRZ0034-0R0W	NETWORK RESISTOR	0Ω
	RA8002	NRZ0034-0R0W	NETWORK RESISTOR	0Ω
	RA8003	NRZ0034-0R0W	NETWORK RESISTOR	0Ω
	RA8004	NRZ0034-0R0W	NETWORK RESISTOR	0Ω
	RA8005	NRZ0034-0R0W	NETWORK RESISTOR	0Ω
	C3751	NBE60GM-337X	T CAPACITOR	330μF,4.0V
	C8001	NBE90JM-106X	T CAPACITOR	10μF,6.3V
	C8002	NCB31CK-104X	CAPACITOR	0.1μF,16V
	C8003	NBE90JM-106X	T CAPACITOR	10μF,6.3V
	C8004	NCB31CK-104X	CAPACITOR	0.1μF,16V
	C8005	NCB31HK-103X	CAPACITOR	0.01μF,50V
	C8006	NCB31HK-103X	CAPACITOR	0.01μF,50V
	C8007	NCB31HK-103X	CAPACITOR	0.01μF,50V
	C8008	NCB31HK-103X	CAPACITOR	0.01μF,50V
	C8009	NCB31HK-103X	CAPACITOR	0.01μF,50V
	C8010	NCB31HK-103X	CAPACITOR	0.01μF,50V
	C8011	NCB31HK-102X	CAPACITOR	0.001μF,50V
	C8012	NCB31HK-103X	CAPACITOR	0.01μF,50V
	C8013	NCB31HK-103X	CAPACITOR	0.01μF,50V
	C8014	NBE90JM-106X	T CAPACITOR	10μF,6.3V
	C8015	NCB31CK-104X	CAPACITOR	0.1μF,16V
	C8016	NCB31HK-103X	CAPACITOR	0.01μF,50V
	C8017	NCB31CK-104X	CAPACITOR	0.1μF,16V
	C8018	NCB31HK-103X	CAPACITOR	0.01μF,50V
	C8019	NCB31CK-104X	CAPACITOR	0.1μF,16V
	C8020	NDC31HJ-271X	CAPACITOR	270pF,50V
	L8001	NQR0265-001X	FERRITE BEAD	
	L8002	NQR0265-001X	FERRITE BEAD	
	L8003	NQR0006-001X	FERRITE BEAD	
	L8004	NQR0276-001X	COIL	
	J601	QND0004-001	S JACK	
	J602	LY40710-002A	JACK UNIT	
	J8001	QNZ0118-001	D CONNECTOR	
	CN601	QGF0301F1-57X	FPC CONNECTOR	
	CN602	QGA1201C2-02X	CONNECTOR	

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MONITOR BOARD ASSEMBLY <07>

#	REF No.	PART No.	PART NAME, DESCRIPTION	
	PW	YB10240B-01	MONITOR BOARD ASSY	
	IC7201	MM1385XN	IC	
	IC7202	TK11900M	IC	
	IC7203	MM1385XN	IC	
	IC7301	AN2533FH	IC	
	IC7302	NM25C020LZEM8	IC	
	IC7401	CXA2503AR	IC	
	IC7402	TC7SET08FU	IC(DIGITAL)	
	IC7403	TC7S04FU	IC	
	IC7404	TC7SH08FU	IC(DIGITAL)	

REF No.	PART No.	PART NAME, DESCRIPTION	
Q7201	2SA1577/QR/-X	TRANSISTOR	
Q7202	DTC144EE	TRANSISTOR	
	or RN1104	TRANSISTOR	
Q7203	2SA1577/QR/-X	TRANSISTOR	
Q7204	DTC144EE	TRANSISTOR	
	or RN1104	TRANSISTOR	
Q7205	DTC144EE	TRANSISTOR	
	or RN1104	TRANSISTOR	
Q7206	2SC4617/QR/-X	TRANSISTOR	
Q7207	DTA144EE	TRANSISTOR	
	or RN2104	TRANSISTOR	
Q7208	2SA1774/QR/-X	TRANSISTOR	
Q7209	DTC144EE	TRANSISTOR	
	or RN1104	TRANSISTOR	
Q7210	2SA1774/QR/-X	TRANSISTOR	
Q7211	DTC144EE	TRANSISTOR	
	or RN1104	TRANSISTOR	
Q7301	2SC4617/QR/-X	TRANSISTOR	
	or 2SC4738/YG/-X	TRANSISTOR	
Q7351	2SC4617/QR/-X	TRANSISTOR	
	or 2SC4738/YG/-X	TRANSISTOR	
Q7352	2SA1774/QR/-X	TRANSISTOR	
	or 2SA1832/YG/-X	TRANSISTOR	
Q7353	2SC4617/QR/-X	TRANSISTOR	
	or 2SC4738/YG/-X	TRANSISTOR	
Q7354	2SA1774/QR/-X	TRANSISTOR	
	or 2SA1832/YG/-X	TRANSISTOR	
Q7355	2SC4617/QR/-X	TRANSISTOR	
	or 2SC4738/YG/-X	TRANSISTOR	
Q7356	2SA1774/QR/-X	TRANSISTOR	
	or 2SA1832/YG/-X	TRANSISTOR	
Q7357	2SC4617/QR/-X	TRANSISTOR	
	or 2SC4738/YG/-X	TRANSISTOR	
Q7358	2SA1774/QR/-X	TRANSISTOR	
	or 2SA1832/YG/-X	TRANSISTOR	
Q7359	DTA144EE	TRANSISTOR	
	or RN2104	TRANSISTOR	
Q7401	UMZ1N	PAIR TRANSISTOR	
Q7402	2SC4617/QR/-X	TRANSISTOR	
	or 2SC4738/YG/-X	TRANSISTOR	
D7201	MA111	DIODE	
D7351	RB471E	SB DIODE	
D7401	MA365	VARI CAP DIODE	
R7201	NRVA63D-911X	CMF RESISTOR	910Ω.1/16W
R7202	NRVA63D-183X	CMF RESISTOR	18kΩ.1/16W
R7203	NRVA63D-222X	CMF RESISTOR	2.2kΩ.1/16W
R7251	NRSA63J-103X	MG RESISTOR	10kΩ.1/16W
R7252	NRSA63J-103X	MG RESISTOR	10kΩ.1/16W
R7253	NRSA63J-103X	MG RESISTOR	10kΩ.1/16W
R7254	NRSA63J-103X	MG RESISTOR	10kΩ.1/16W
R7255	NRSA63J-103X	MG RESISTOR	10kΩ.1/16W
R7256	NRSA63J-103X	MG RESISTOR	10kΩ.1/16W
R7257	NRSA63J-152X	MG RESISTOR	1.5kΩ.1/16W
R7258	NRSA63J-182X	MG RESISTOR	1.8kΩ.1/16W
R7259	NRSA63J-272X	MG RESISTOR	2.7kΩ.1/16W
R7260	NRSA63J-103X	MG RESISTOR	10kΩ.1/16W
R7261	NRSA63J-103X	MG RESISTOR	10kΩ.1/16W
R7262	NRSA63J-103X	MG RESISTOR	10kΩ.1/16W
R7263	NRSA63J-103X	MG RESISTOR	10kΩ.1/16W
R7264	NRSA63J-223X	MG RESISTOR	22kΩ.1/16W
R7265	NRSA63J-103X	MG RESISTOR	10kΩ.1/16W

REF No.	PART No.	PART NAME, DESCRIPTION	
R7266	NRSA63J-183X	MG RESISTOR	18kΩ.1/16W
R7267	NRSA63J-103X	MG RESISTOR	10kΩ.1/16W
R7268	NRSA63J-222X	MG RESISTOR	2.2kΩ.1/16W
R7269	NRSA63J-103X	MG RESISTOR	10kΩ.1/16W
R7270	NRSA63J-222X	MG RESISTOR	2.2kΩ.1/16W
R7301	NRSA63J-222X	MG RESISTOR	2.2kΩ.1/16W
R7303	NRSA63J-102X	MG RESISTOR	1kΩ.1/16W
R7305	NRSA63J-153X	MG RESISTOR	15kΩ.1/16W
R7306	NRVA63D-103X	CMF RESISTOR	10kΩ.1/16W
R7308	NRVA63D-104X	CMF RESISTOR	100kΩ.1/16W
R7309	NRSA63J-561X	MG RESISTOR	560Ω.1/16W
R7310	NRSA63J-222X	MG RESISTOR	2.2kΩ.1/16W
R7311	NRSA63J-222X	MG RESISTOR	2.2kΩ.1/16W
R7312	NRSA63J-222X	MG RESISTOR	2.2kΩ.1/16W
R7313	NRSA63J-0R0X	MG RESISTOR	0Ω.1/16W
R7315	NRSA63J-473X	MG RESISTOR	47kΩ.1/16W
R7316	NRSA63J-0R0X	MG RESISTOR	0Ω.1/16W
R7317	NRSA63J-0R0X	MG RESISTOR	0Ω.1/16W
R7318	NRSA63J-0R0X	MG RESISTOR	0Ω.1/16W
R7319	NRSA63J-0R0X	MG RESISTOR	0Ω.1/16W
R7320	NRSA63J-0R0X	MG RESISTOR	0Ω.1/16W
R7321	NRSA63J-0R0X	MG RESISTOR	0Ω.1/16W
R7322	NRVA63D-101X	CMF RESISTOR	100Ω.1/16W
R7323	NRVA63D-101X	CMF RESISTOR	100Ω.1/16W
R7324	NRVA63D-101X	CMF RESISTOR	100Ω.1/16W
R7351	NRVA63D-222X	CMF RESISTOR	2.2kΩ.1/16W
R7352	NRVA63D-222X	CMF RESISTOR	2.2kΩ.1/16W
R7353	NRVA63D-222X	CMF RESISTOR	2.2kΩ.1/16W
R7354	NRVA63D-222X	CMF RESISTOR	2.2kΩ.1/16W
R7355	NRVA63D-222X	CMF RESISTOR	2.2kΩ.1/16W
R7356	NRVA63D-222X	CMF RESISTOR	2.2kΩ.1/16W
R7360	NRSA63J-683X	MG RESISTOR	68kΩ.1/16W
R7361	NRSA63J-123X	MG RESISTOR	12kΩ.1/16W
R7362	NRSA63J-123X	MG RESISTOR	12kΩ.1/16W
R7363	NRSA63J-222X	MG RESISTOR	2.2kΩ.1/16W
R7364	NRSA63J-221X	MG RESISTOR	220Ω.1/16W
R7367	NRVA63D-184X	CMF RESISTOR	180kΩ.1/16W
R7368	NRVA63D-752X	CMF RESISTOR	7.5kΩ.1/16W
R7369	NRVA63D-473X	CMF RESISTOR	47kΩ.1/16W
R7370	NRSA63J-123X	MG RESISTOR	12kΩ.1/16W
R7371	NRSA63J-123X	MG RESISTOR	12kΩ.1/16W
R7372	NRSA63J-222X	MG RESISTOR	2.2kΩ.1/16W
R7373	NRSA63J-221X	MG RESISTOR	220Ω.1/16W
R7374	NRSA63J-223X	MG RESISTOR	22kΩ.1/16W
R7375	NRVA63D-223X	CMF RESISTOR	22kΩ.1/16W
R7376	NRVA63D-223X	CMF RESISTOR	22kΩ.1/16W
R7377	NRSA63J-0R0X	MG RESISTOR	0Ω.1/16W
R7378	NRSA63J-0R0X	MG RESISTOR	0Ω.1/16W
R7379	NRSA63J-0R0X	MG RESISTOR	0Ω.1/16W
R7380	NRSA63J-0R0X	MG RESISTOR	0Ω.1/16W
R7382	NRSA63J-105X	MG RESISTOR	1MΩ.1/16W
R7401	NRVA63D-243X	CMF RESISTOR	24kΩ.1/16W
R7402	NRVA63D-334X	CMF RESISTOR	330kΩ.1/16W
R7403	NRSA63J-104X	MG RESISTOR	100kΩ.1/16W
R7404	NRSA63J-103X	MG RESISTOR	10kΩ.1/16W
R7405	NRSA63J-473X	MG RESISTOR	47kΩ.1/16W
R7406	NRSA63J-0R0X	MG RESISTOR	0Ω.1/16W
R7410	NRVA63D-562X	CMF RESISTOR	5.6kΩ.1/16W
R7411	NRVA63D-562X	CMF RESISTOR	5.6kΩ.1/16W
R7412	NRSA63J-222X	MG RESISTOR	2.2kΩ.1/16W
R7413	NRSA63J-561X	MG RESISTOR	560Ω.1/16W

REF No	PART No.	PART NAME, DESCRIPTION	
R7414	NRSA63J-751X	MG RESISTOR	750Ω.1/16W
R7416	NRSA63J-102X	MG RESISTOR	1kΩ.1/16W
R7417	NRSA63J-274X	MG RESISTOR	270kΩ.1/16W
R7418	NRSA63J-103X	MG RESISTOR	10kΩ.1/16W
R7419	NRSA63J-102X	MG RESISTOR	1kΩ.1/16W
R7420	NRSA63J-333X	MG RESISTOR	33kΩ.1/16W
R7421	NRSA63J-103X	MG RESISTOR	10kΩ.1/16W
R7422	NRVA63D-122X	CMF RESISTOR	1.2kΩ.1/16W
R7423	NRVA63D-182X	CMF RESISTOR	1.8kΩ.1/16W
R7425	NRVA63D-202X	CMF RESISTOR	2kΩ.1/16W
R7426	NRVA63D-433X	CMF RESISTOR	43kΩ.1/16W
R7427	NRVA63D-563X	CMF RESISTOR	56kΩ.1/16W
R7428	NRSA63J-0R0X	MG RESISTOR	0Ω.1/16W
R7429	NRVA63D-563X	CMF RESISTOR	56kΩ.1/16W
R7430	NRVA63D-223X	CMF RESISTOR	22kΩ.1/16W
R7431	NRSA63J-222X	MG RESISTOR	2.2kΩ.1/16W
R7432	NRSA63J-222X	MG RESISTOR	2.2kΩ.1/16W
R7433	NRSA63J-0R0X	MG RESISTOR	0Ω.1/16W
R7434	NRSA63J-0R0X	MG RESISTOR	0Ω.1/16W
R7435	NRSA63J-0R0X	MG RESISTOR	0Ω.1/16W
C7201	NCB21AK-105X	CAPACITOR	1μF.10V
C7202	NCB31HK-103X	CAPACITOR	0.01μF.50V
C7203	NBE20JM-106X	T CAPACITOR	10μF.6.3V
C7205	NCB31HK-103X	CAPACITOR	0.01μF.50V
C7206	NBP41DM-106X	T CAPACITOR	10μF.20V
C7207	NCB21AK-105X	CAPACITOR	1μF.10V
C7208	NCB31HK-103X	CAPACITOR	0.01μF.50V
C7209	NBE20JM-106X	T CAPACITOR	10μF.6.3V
C7210	NBP21DM-475X	T CAPACITOR	4.7μF.20V
C7212	NBP51EM-106X	T CAPACITOR	10μF.25V
C7301	NCB21AK-105X	CAPACITOR	1μF.10V
C7302	NCB31HK-103X	CAPACITOR	0.01μF.50V
C7303	NBE20JM-106X	T CAPACITOR	10μF.6.3V
C7304	NBE20JM-106X	T CAPACITOR	10μF.6.3V
C7305	NCB21AK-105X	CAPACITOR	1μF.10V
C7306	NCB21AK-105X	CAPACITOR	1μF.10V
C7307	NBP21CM-225X	T CAPACITOR	2.2μF.16V
C7308	NCB11CK-105X	CAPACITOR	1μF.16V
C7309	NCB31HK-103X	CAPACITOR	0.01μF.50V
C7310	NBP21CM-225X	T CAPACITOR	2.2μF.16V
C7311	NBP21CM-225X	T CAPACITOR	2.2μF.16V
C7312	NBE20JM-475X	T CAPACITOR	4.7μF.6.3V
C7313	NCB31HK-103X	CAPACITOR	0.01μF.50V
C7314	NBE20JM-225X	T CAPACITOR	2.2μF.6.3V
C7315	NCB31HK-822X	CAPACITOR	0.0082μF.50V
C7316	NBE20JM-475X	T CAPACITOR	4.7μF.6.3V
C7318	NDC31HJ-471X	CAPACITOR	470pF.50V
C7319	NCB31HK-681X	CAPACITOR	680pF.50V
C7320	NCB21AK-105X	CAPACITOR	1μF.10V
C7321	NCB31CK-104X	CAPACITOR	0.1μF.16V
C7322	NCB31CK-104X	CAPACITOR	0.1μF.16V
C7323	NBP21CM-475X	T CAPACITOR	4.7μF.16V
C7324	NCB31CK-104X	CAPACITOR	0.1μF.16V
C7325	NCB21AK-105X	CAPACITOR	1μF.10V
C7326	NCB21AK-105X	CAPACITOR	1μF.10V
C7331	NCB31CK-104X	CAPACITOR	0.1μF.16V
C7351	NBE21AM-475X	T CAPACITOR	4.7μF.10V
C7352	NBE21AM-475X	T CAPACITOR	4.7μF.10V
C7353	NBE21AM-475X	T CAPACITOR	4.7μF.10V
C7354	NBP21CM-225X	T CAPACITOR	2.2μF.16V
C7355	NBP41EM-475X	T CAPACITOR	4.7μF.25V

REF No.	PART No.	PART NAME, DESCRIPTION	
C7356	NCB31CK-104X	CAPACITOR	0.1μF.16V
C7360	NBE20JM-475X	T CAPACITOR	4.7μF.6.3V
C7361	NCB31HK-103X	CAPACITOR	0.01μF.50V
C7362	NBE20JM-475X	T CAPACITOR	4.7μF.6.3V
C7363	NCB31HK-103X	CAPACITOR	0.01μF.50V
C7364	NCB31CK-104X	CAPACITOR	0.1μF.16V
C7401	NBP21CM-105X	T CAPACITOR	1μF.16V
C7402	NCB31CK-104X	CAPACITOR	0.1μF.16V
C7403	NCB31CK-104X	CAPACITOR	0.1μF.16V
C7404	NCB31CK-104X	CAPACITOR	0.1μF.16V
C7405	NCB31CK-104X	CAPACITOR	0.1μF.16V
C7406	NCB31HK-102X	CAPACITOR	0.001μF.50V
C7410	NCB21AK-105X	CAPACITOR	1μF.10V
C7411	NCB31HK-103X	CAPACITOR	0.01μF.50V
C7412	NCB21AK-105X	CAPACITOR	1μF.10V
C7413	NCB21AK-105X	CAPACITOR	1μF.10V
C7414	NCB20JK-225X	CAPACITOR	2.2μF.6.3V
C7415	NCB31HK-332X	CAPACITOR	0.0033μF.50V
C7416	NDC31HJ-221X	CAPACITOR	220pF.50V
C7417	NCB31HK-103X	CAPACITOR	0.01μF.50V
C7418	NDC31HJ-680X	CAPACITOR	68pF.50V
C7419	NBE20JM-106X	T CAPACITOR	10μF.6.3V
C7420	NCB31HK-103X	CAPACITOR	0.01μF.50V
C7421	NCB31CK-104X	CAPACITOR	0.1μF.16V
C7422	NCB31CK-104X	CAPACITOR	0.1μF.16V
C7423	NCB31CK-104X	CAPACITOR	0.1μF.16V
C7424	NCB31HK-103X	CAPACITOR	0.01μF.50V
C7426	NCB31HK-103X	CAPACITOR	0.01μF.50V
C7427	NCB31HK-103X	CAPACITOR	0.01μF.50V
C7428	NBE20JM-106X	T CAPACITOR	10μF.6.3V
C7429	NCB31CK-104X	CAPACITOR	0.1μF.16V
C7430	NCB31CK-104X	CAPACITOR	0.1μF.16V
C7431	NCB31HK-103X	CAPACITOR	0.01μF.50V
C7432	NCB21AK-105X	CAPACITOR	1μF.10V
C7433	NCB31HK-103X	CAPACITOR	0.01μF.50V
C7435	NCB21AK-105X	CAPACITOR	1μF.10V
L7201	NQL144K-100X	COIL	10μH
L7202	NQL144K-100X	COIL	10μH
L7203	NQL144K-220X	COIL	22μH
L7204	NQL144M-1R0X	COIL	1μH
L7205	NQL144K-100X	COIL	10μH
L7206	NQL144K-220X	COIL	22μH
L7207	NQL144K-220X	COIL	22μH
L7208	NQL315K-220X	COIL	22μH
L7301	NQL144K-220X	COIL	22μH
L7351	NQL144K-220X	COIL	22μH
L7352	NQL144K-220X	COIL	22μH
L7401	NQL085J-100X	COIL	10μH
S7251	NSW0078-001	ROTARY ENCODER	
S7252	NSW0008-001X	TACT SWITCH	
S7253	NSW0008-001X	TACT SWITCH	
S7254	NSW0100-001X	TACT SWITCH	
S7255	QSW0803-001	PUSH SWITCH	
CN7201	QGF0301F1-51X	FPC CONNECTOR	
CN7202	QGF0507F1-22X	FPC CONNECTOR	
CN7203	QGF0301F1-33X	FPC CONNECTOR	
CN7204	QGF0505F1-06X	FPC CONNECTOR	
SD1	LY41462-001B	SHIELD(MONI.P)	

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CCD BOARD ASSEMBLY <08>

REF No.	PART No.	PART NAME, DESCRIPTION	
PW	YB20841A-02	CCD BOARD ASSY	
Q5203	2SK662/PQR/-X	MOS FET	
Q5204	2SK662/PQR/-X	MOS FET	
D5201	1SS355	DIODE	
R5201	NRSA6AJ-104W	MG RESISTOR	100kΩ,1/16W
R5204	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R5207	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R5208	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R5209	NRSA6AJ-0R0W	MG RESISTOR	0Ω,1/16W
R5210	NRSA6AJ-473W	MG RESISTOR	47kΩ,1/16W
R5212	NRSA6AJ-472W	MG RESISTOR	4.7kΩ,1/16W
R5213	NRSA6AJ-472W	MG RESISTOR	4.7kΩ,1/16W
C5201	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
C5202	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
C5203	NBP41CM-106X	T CAPACITOR	10µF,16V
C5204	NCFA1HZ-103W	CAPACITOR	0.01µF,50V
C5205	NCFA1HZ-103W	CAPACITOR	0.01µF,50V
C5206	NBP41VM-225X	T CAPACITOR	2.2µF,35V
C5207	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
C5208	NCFA1HZ-103W	CAPACITOR	0.01µF,50V
C5209	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C5210	NBP21EM-105X	T CAPACITOR	1µF,25V
C5213	NBE91CM-105X	T CAPACITOR	1µF,16V
C5214	NBE91CM-105X	T CAPACITOR	1µF,16V
C5216	NCFA1AZ-104W	CAPACITOR	0.1µF,10V
L5201	NQR0129-002X	FERRITE BEAD	
L5202	NQR0129-002X	FERRITE BEAD	
L5203	NQL045K-100X	COIL	10µH
L5204	NQL045K-100X	COIL	10µH
CN801	QGB0510L1-30X	CONNECTOR	
SD1	LY41286-001A	CCD SHIELD	
OT1	LY41255-001A	SHEET(CCD)	
OT2	LY30016-0L3B	SPACER-A	

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W/B BOARD ASSEMBLY <09>

REF No.	PART No.	PART NAME, DESCRIPTION	
PW2	YB20844C2-01	W/B BOARD ASSY	
Q91	RPM-22PB	PHOTO TRANSISTOR	
R91	NRSA63J-302X	MG RESISTOR	3kΩ,1/16W
C91	NBE20JM-226X	T CAPACITOR	22µF,6.3V
L91	NQR0265-001X	FERRITE BEAD	
WR1	WJM0068-001B	E-SI C WIRE C-F	

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MONITOR BL BOARD ASSEMBLY <11>

REF No.	PART No.	PART NAME, DESCRIPTION	
PW1	YB10241A3-03	MONITOR BL BOARD ASSY	
Q7601	DTC144EE	TRANSISTOR	
	or RN1104	TRANSISTOR	
Q7602	DTA144EE	TRANSISTOR	
	or RN2104	TRANSISTOR	
Q7603	FX507	PAIR TRANSISTOR	
R7601	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R7602	NRSA63J-681X	MG RESISTOR	
R7604	NRSA63J-681X	MG RESISTOR	
R7605	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
C7601	NCB31HK-103X	CAPACITOR	0.01µF,50V
C7602	NCB31HK-103X	CAPACITOR	0.01µF,50V
C7603	NCB31HK-103X	CAPACITOR	0.01µF,50V
C7604	NCB31HK-103X	CAPACITOR	0.01µF,50V
C7610	NBE51AM-476X	T CAPACITOR	47µF,10V
C7611	NFV41HJ-153X	MPPS CAPACITOR	0.015µF,50V
C7612	NCZ1021-270X	CAPACITOR	15pF
C7613	NCZ1016-220X	CAPACITOR	22pF
L7601	NQLZ008-100X	COIL	10µH
L7602	NQLZ008-101X	COIL	100µH
TH7601	NAD0019-471X	P THERMISTOR	
T7601	NQS0033-001	SW TRANSF	
CN7601	QGF0505F2-16X	FPC CONNECTOR	
CN7602	QGF0505F2-16X	FPC CONNECTOR	
CN7603	QGF0505F1-24X	FPC CONNECTOR	
⚠ F7601	NMFZ006-R40X-K	FUSE	T0.4A

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VF SUB BOARD ASSEMBLY <12>

REF No.	PART No.	PART NAME, DESCRIPTION	
PW3	YB10241A2-01	VF SUB BOARD ASSY	
R7650	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R7651	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R7652	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
C7650	NCB31CK-104X	CAPACITOR	0.1µF,16V
C7651	NCB31CK-104X	CAPACITOR	0.1µF,16V
CN7650	QGF0501F1-20X	FPC CONNECTOR	
CN7651	QGF0505F2-16X	FPC CONNECTOR	
CN7652	QGB0801L1-20X	CONNECTOR	

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VF BL BOARD ASSEMBLY <13>

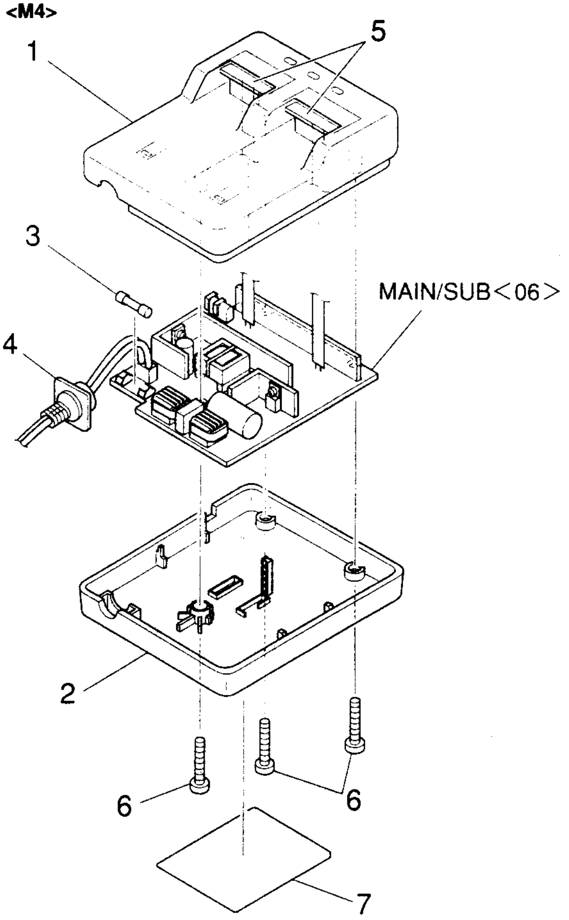
REF No.	PART No.	PART NAME, DESCRIPTION	
PW2	YB10241A1-01	VF BL BOARD ASSY	
Q7670	2SK2055	MOS FET	
R7670	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
C7670	NCB31CK-104X	CAPACITOR	0.1µF,16V
C7671	NBP41CM-226X	T CAPACITOR	22µF,16V
L7670	NQL144K-220X	COIL	22µH
T7670	NQH0004-001X	FB TRANSF	
BL7670	NLL0004-001	LAMP	
CN7670	QGB0801M1-20X	CONNECTOR	
SD1	LY41261-001A	SHIELD SHEET	
OT1	LY30016-0A3A	SPACER-A	

SECTION 6
AC POWER ADAPTER

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

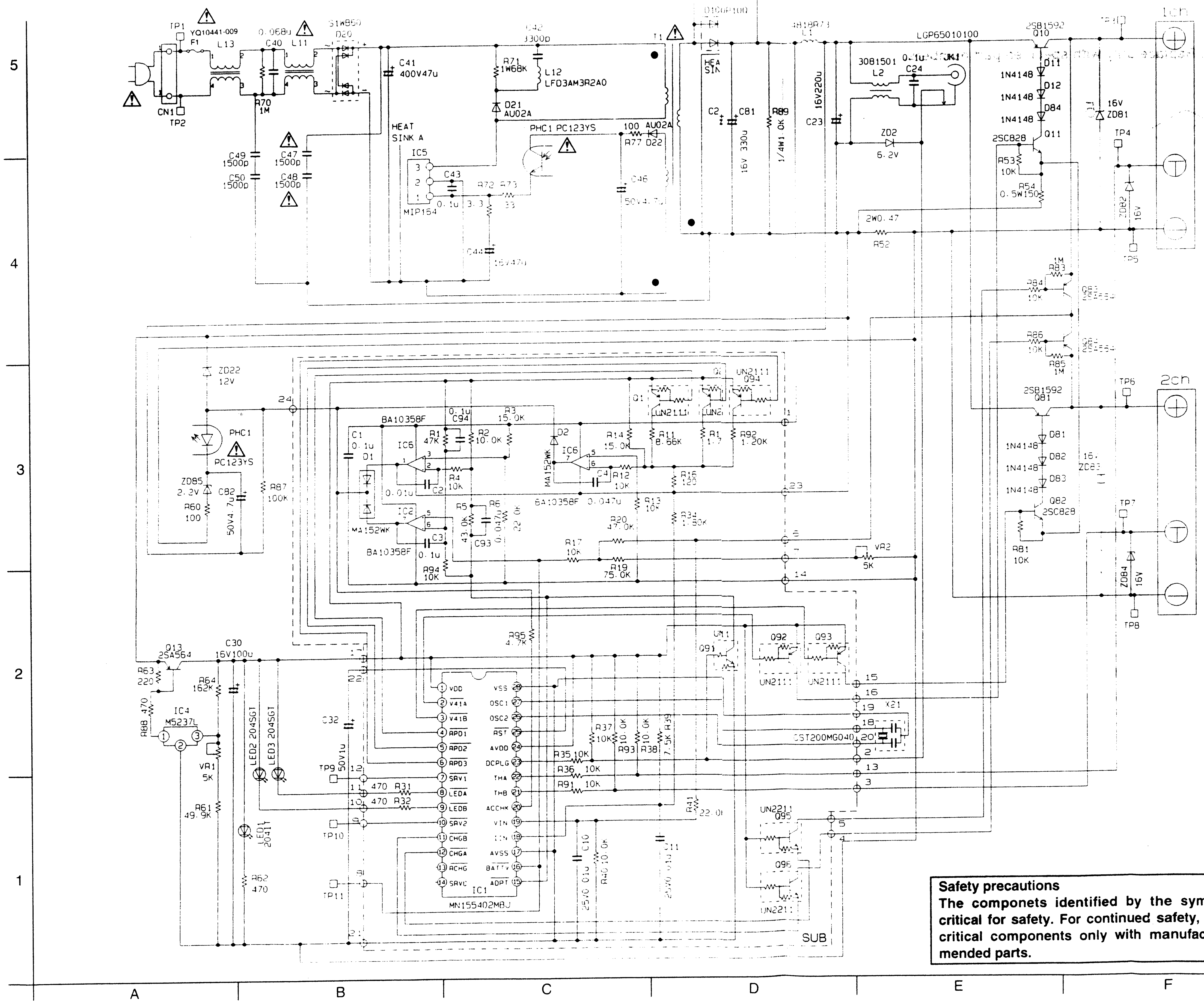
6.1 CABINET ASSEMBLY <M4>



#⚠REF NO.	PART NO.	PART NAME, DESCRIPTION
************************************		
	CABINET ASSEMBLY <M4>	
1	LY30814-002B	UPPER CASE ASSY
2	PTY20290-012	LOWER CASE
⚠ 3	YQ10441-009	FUSE (F1, 250V 1A)
⚠ 4	YQ21032-007	AC POWER CORD.EG
⚠ 4	YQ21032-008	AC POWER CORD.EK
5	PYT20290-111	BATT.TERM. BOARD,x2
6	YQ10531-011	SCREW,x3
⚠ 7	–	RATING LABEL

6.2 MAIN/SUB SCHEMTIC DIAGRAM

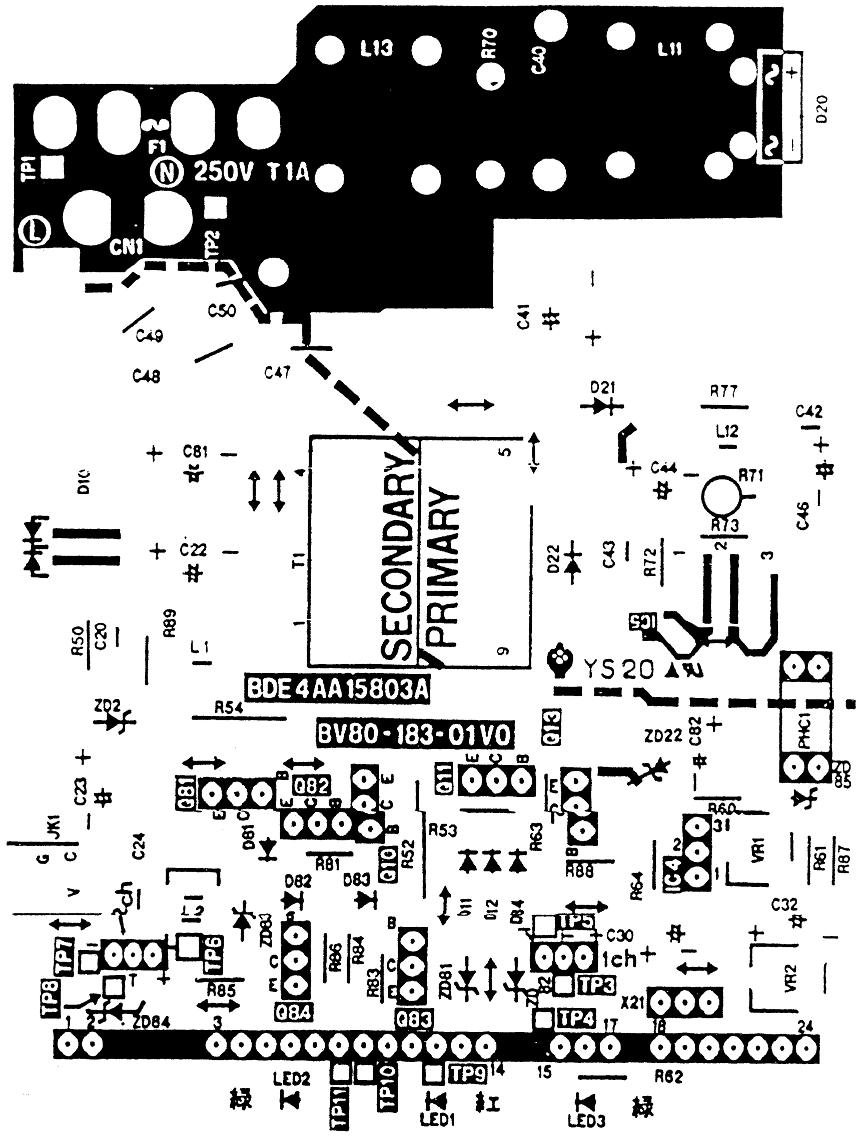
NOTE: *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*



TP1
YQ10441-009
F1
L13
C40
L11
0.068u
D20
CN1
TP2
R70 1M
C41 400V47u
R71 1W68K
L12 LFD3AM3R2A0
D21 AU02A
HEAT SINK A
IC5
MIP154
C43
R72
R73
C44
PHC1 PC123YS
R77 D22
C46
C49 1500p
C50 1500p
C47 1500p
C48 1500p
T1
C2
C81
R89
16V 330u
1/4W1.0K
16V220u
C23
L1
L2
3081501
C24
JK1
ZD2 6.2V
LGP65010100
2SB1592 Q10
D11 1N4148
D12 1N4148
D84 1N4148
Q11 2SC828
R53 10K
R54 0.5W150
16V ZD81
TP4
ZD82 16V
TP5
2W0.47 R52
1ch
R83 1M
R84 10K
Q83 2SA564
R86 10K
Q84 2SA564
R85 1M
TP6
2cn
2SB1592 Q81
D81 1N4148
D82 1N4148
D83 1N4148
Q82 2SC828
R81 10K
TP7
ZD84 16V
TP8
ZD22 12V
PHC1 PC123YS
ZD85 2.2V
R60 100
C82 50V4.7u
R87 100K
BA10358F
C1 0.1u
IC6
D1
R1 47K
C94 0.1u
R2 10.0K
R3 15.0K
C2 0.01u
R4 10K
IC2
MA152WK
C3 0.1u
R5 43.0K
R6 22.0K
C93
R94 10K
D2 MA152WK
R14 15.0K
R11 8.66K
R92 1.20K
UN2111
Q4
C4
R12 10K
R16 120
R13 10K
R34 1.50K
R20 47.0K
R17 10K
R19 75.0K
VR2 5K
Q13 2SA564
C30 16V100u
R63 220
R64 162K
R88 470
IC4 M5237L
VR1 5K
R61 49.9K
LED2 204SGT
LED3 204SGT
LED1 2041
R62 470
C32
50V1u
TP9
TP10
TP11
R31 470
R32 470
R95 4.7K
IC1 MN155402MBJ
VDD
V41A
V41B
APD1
APD2
APD3
SRV1
LEDA
LEDB
SRV2
CHGB
CHGA
ACHG
SRVC
VSS
OSC1
OSC2
RST
AVDD
DCPLG
THA
THB
ACCHK
VIN
AVSS
BATTV
ADPT
R37 10K
R93
R38
R39 7.5K
R35 10K
R36 10K
R91 10K
R41 22.0K
C10
R40 10.0K
C11
Q91 UN2111
Q92 UN2111
Q93 UN2111
X21 CST200MG040
Q95 UN2211
Q96 UN2211
SUB
A
B
C
D
E
F
G
H
1
2
3
4
5

Safety precautions
The componets identified by the symbol ⚠ are critical for safety. For continued safety, replace safety critical components only with manufacture's recommended parts.

6.3 CIRCUIT BOARD


L13
R70
C40
L11
D20
F1
250V T1A
TP1
CN1
TP2
C50
C49
C48
C47
C41
D21
R77
L12
C42
C44
R71
R73
C46
C81
C22
D10
T1
SECONDARY
PRIMARY
D22
C43
R72
YS 20
BDE4AA15803A
BV80-183-01V0
R50
C20
R89
L1
R54
ZD2
Q13
ZD22
C82
PHC1
ZD85
C23
JK1
C24
Q81
Q82
Q11
R53
R52
R81
Q10
D82
D83
R63
R88
R64
IC4
R60
VR1
R61
R87
C32
VR2
C30
1ch
2ch
TP7
TP8
TP6
R85
ZD84
Q84
R86
R84
R83
Q83
TP5
TP3
TP4
X21
LED2
TP11
TP10
TP9
LED1
LED3
R62

#	REF No.	PART No.	PART NAME, DESCRIPTION	
	C82	QEHA1HM-475	E CAPACITOR	4.7µF,50V
	L1	PTY20080-533	CHOKE COIL	
	L2	PTY20080-534	CHOKE COIL	
⚠	L11	PTY20080-531	LINE FILTER	
	L12	YQ10626-432	FERRITE BEADS	
	L13	PTY20080-532	LINE FILTER	
	X21	YQ21032-305	CERAMIC RESONATOR	2MHz
	JK1	YQ21032-301	DC JACK	
⚠	T1	PTY20080-542	TRANSFORMER	
	HS1	PTY20070-571	HEAT SINK A	
	HS2	PTY20080-572	HEAT SINK B	
	FC1	YQ21032-304	FUSE CLIP	
	FC2	YQ21032-304	FUSE CLIP	
	OT1	PTY20080-581	SCREW	8mm
	OT2	PTY20080-582	SCREW	8mm
	PW2	YQ21032-002	SUB BOARD ASSY	

#	REF No.	PART No.	PART NAME, DESCRIPTION

6.4 ELECTRICAL PARTS LIST

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MAIN/SUB BOARD ASSEMBLY <06>

#	REF No.	PART No.	PART NAME, DESCRIPTION	
	PW1	YQ21032-003	MAIN/SUB BOARD ASSY	
	IC4	M5237L	VOLTAGE REGULATOR	
	IC5	MIP1640002DN	IC	
	Q10	2SB1592	TRANSISTOR	PNP
	Q10	or 2SA1615	TRANSISTOR	PNP
	Q11	2SC828	TRANSISTOR	NPN
	Q11	or 2SC945	TRANSISTOR	NPN
	Q11	or 2SC1740	TRANSISTOR	NPN
	Q13	2SA564	TRANSISTOR	PNP
	Q13	or 2SA733	TRANSISTOR	PNP
	Q81	2SA1592	TRANSISTOR	PNP
	Q81	or 2SA1615	TRANSISTOR	PNP
	Q82	2SC828	TRANSISTOR	NPN
	Q82	or 2SC945	TRANSISTOR	NPN
	Q82	or 2SC1740	TRANSISTOR	NPN
	Q83	2SA564	TRANSISTOR	PNP
	Q83	or 2SA733	TRANSISTOR	PNP
	Q84	2SA564	TRANSISTOR	PNP
	Q84	or 2SA733	TRANSISTOR	PNP
	D10	F10P10Q	SCHOTTKY BARRIER DIODE	
	D10	or YG802C09	SCHOTTKY BARRIER DIODE	
	D10	or MA7D61	SCHOTTKY BARRIER DIODE	
	D11	1N4148	DIODE	
	D11	or MA165	DIODE	
	D11	or 1N4148	DIODE	
	D12	1N4148	DIODE	
	D12	or MA165	DIODE	
	D12	or 1N4148	DIODE	
	D20	S1WBA60	BRIDGE DIODE	
	D21	AU02A	DIODE	
	D21	or ERA2208	DIODE	
	D22	AU02A	DIODE	
	D22	or ERA2204	DIODE	
	D81	1N4148	DIODE	
	D81	or MA165	DIODE	
	D81	or 1N4148	DIODE	
	D82	1N4148	DIODE	
	D82	or MA165	DIODE	
	D82	or 1N4148	DIODE	
	D83	1N4148	DIODE	
	D83	or MA165	DIODE	
	D83	or 1N4148	DIODE	
	D84	1N4148	DIODE	
	D84	or MA165	DIODE	
	D84	or 1N4148	DIODE	
	LED1	204IT	LED Power lamp	Red
	LED2	204SGT	LED Charge 2	Green
	LED3	204SGT	LED Charge 1	Green
	ZD2	BZX55C6V2	ZENER DIODE	
	ZD2	or MTZ6.2	ZENER DIODE	
	ZD2	or MTZJ6.2	ZENER DIODE	
	ZD2	or MA4062	ZENER DIODE	
	ZD22	BZX55C12	ZENER DIODE	
	ZD22	or MTZ12	ZENER DIODE	
	ZD22	or MTZJ12	ZENER DIODE	
	ZD22	or MA4120	ZENER DIODE	
	ZD81	BZX55C16	ZENER DIODE	
	ZD81	or MTZ16	ZENER DIODE	
	ZD81	or MTZJ16	ZENER DIODE	
	ZD81	or MA4160	ZENER DIODE	
	ZD82	BZX55C16	ZENER DIODE	
	ZD82	or MTZ16	ZENER DIODE	
	ZD82	or MTZJ16	ZENER DIODE	
	ZD82	or MA4160	ZENER DIODE	
	ZD83	BZX55C16	ZENER DIODE	
	ZD83	or MTZ16	ZENER DIODE	
	ZD83	or MTZJ16	ZENER DIODE	
	ZD83	or MA4160	ZENER DIODE	
	ZD84	BZX55C16	ZENER DIODE	
	ZD84	or MTZ16	ZENER DIODE	
	ZD84	or MTZJ16	ZENER DIODE	
	ZD84	or MA4160	ZENER DIODE	
	ZD85	MTZ2.2	ZENER DIODE	
	ZD85	or MTZJ2.2	ZENER DIODE	
	ZD85	or MA4022	ZENER DIODE	
⚠	PHC1	PC123YS	PHOTO COUPLER	CTR100–200
⚠	PHC1	or PS25611M	PHOTO COUPLER	CTR80–240
⚠	PHC1	or PS25611H	PHOTO COUPLER	CTR80–160
	VR1	PTY20080-516	V RESISTOR	
	VR2	PTY20080-516	V RESISTOR	
	R50	PTY20080-512	RESISTOR	1Ω,1/4W
	R52	PTY20080-513	MF RESISTOR	0.47Ω,2W
	R53	QRZ0125-103	RESISTOR	10kΩ,1/4W
	R54	YQ21032-101	RESISTOR	150Ω,1/2W
	R60	QRZ0125-101	RESISTOR	100Ω,1/4W
	R61	YQ21032-102	MF RESISTOR	49.9kΩ,1/4W
	R62	QRZ0125-471	RESISTOR	470Ω,1/4W
	R63	QRZ0125-221	RESISTOR	220Ω,1/4W
	R64	YQ21032-103	MF RESISTOR	162kΩ,1/4W
	R70	QRN141J-105	RESISTOR	1MΩ,1/4W
	R71	QRL014J-683	OM RESISTOR	68kΩ,1W
	R72	QRZ0125-3R3	RESISTOR	3.3Ω,1/4W
	R73	QRZ0125-330	RESISTOR	33Ω,1/4W
	R77	QRZ0125-101	RESISTOR	100Ω,1/4W
	R81	QRZ0125-103	RESISTOR	10kΩ,1/4W
	R83	QRZ0125-105	RESISTOR	1MΩ,1/4W
	R84	QRZ0125-103	RESISTOR	10kΩ,1/4W
	R85	QRZ0125-105	RESISTOR	1MΩ,1/4W
	R86	QRZ0125-103	RESISTOR	10kΩ,1/4W
	R87	QRZ0125-104	RESISTOR	100kΩ,1/4W
	R88	QRZ0125-471	RESISTOR	470Ω,1/4W
	R89	QRZ0125-102	RESISTOR	1kΩ,1/4W
	C20	YQ10626-408	CAPACITOR	1000pF,500V
	C22	YQ21032-201	E CAPACITOR	330u,16V
	C23	QETL1CM-227	E CAPACITOR	220uF,16V
	C24	YQ10626-406	CAPACITOR	0.1uF,25V
	C30	QETL1CM-107	E CAPACITOR	100uF,16V
	C32	YQ21032-202	E CAPACITOR	1uF,50V
⚠	C40	YQ10626-401	F CAPACITOR	0.068uF,250V
	C41	YQ10626-402	E CAPACITOR	47uF,400V
	C42	YQ10626-403	CAPACITOR	3300pF,500V
	C43	YQ10626-406	CAPACITOR	0.1uF,25V
	C44	YQ21032-203	E CAPACITOR	47uF,16V
	C46	QEHA1HM-475	E CAPACITOR	4.7uF,50V
⚠	C47	YQ21032-208	CAPACITOR	1500pF
⚠	C48	YQ21032-208	CAPACITOR	1500pF
	C49	YQ21032-208	CAPACITOR	1500pF
	C50	YQ21032-208	CAPACITOR	1500pF
	C81	YQ21032-201	E CAPACITOR	330uF,16V